



# Test Report: XDR-240-36

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240W AC/DC High-End Ultra Slim Industrial DIN Rail  
Power

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

## ■ SAFETY & E.M.C. TEST

Safety Test

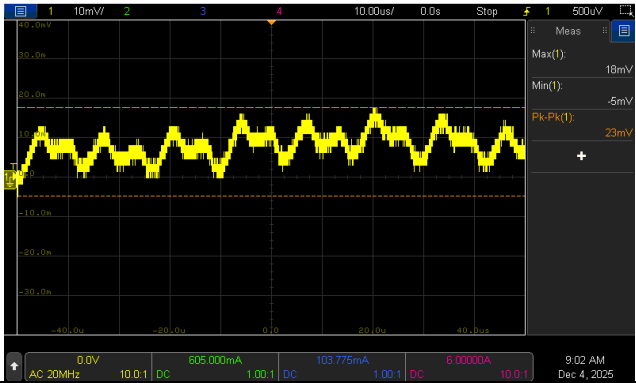
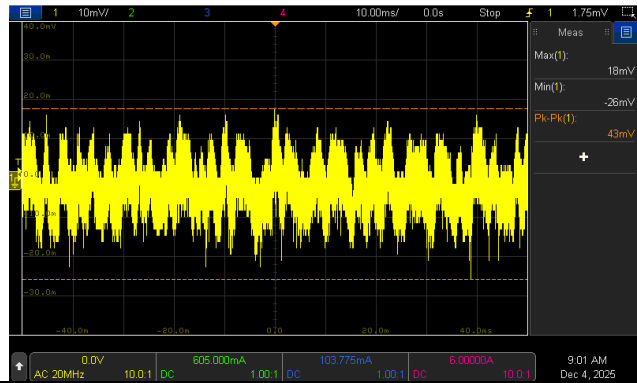
E.M.C. Test

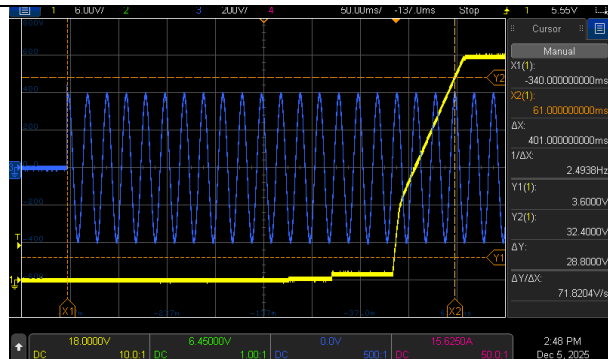
## ■ RELIABILITY TEST

ENVIRONMENT TEST

## DESIGN VERIFY TEST

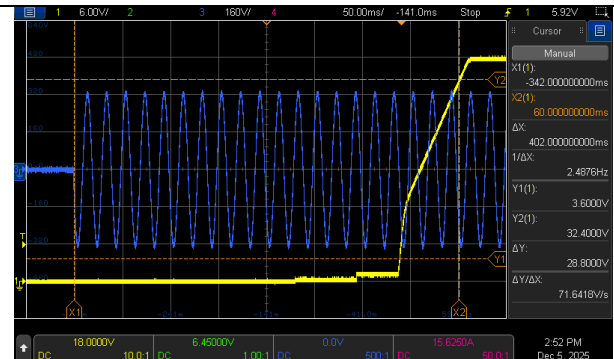
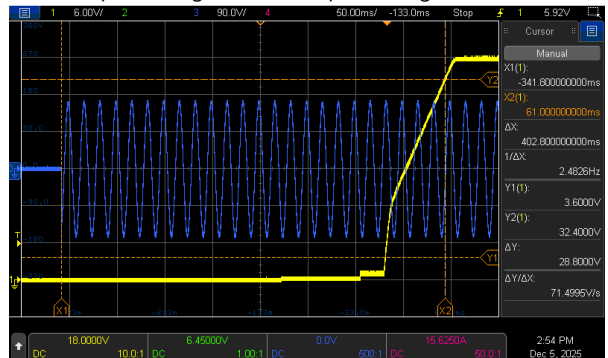
### OUTPUT FUNCTION TEST

| NO                                                                                                                                                                                                                                                        | TEST ITEM                      | SPECIFICATION                                   | TEST CONDITION                                                                  | RESULT                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 1                                                                                                                                                                                                                                                         | OUTPUT VOLTAGE<br>ADJUST RANGE | CH1: 36V~42V                                    | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : MIN LOAD<br>Ta : 25°C  | 34.8V~43.077V/277VAC<br>34.799V~43.08V/230VAC<br>34.802V~43.081V/115VAC |
| 2                                                                                                                                                                                                                                                         | OUTPUT VOLTAGE<br>TOLERANCE    | V1: -1% ~ +1%                                   | I/P: 85VAC~305VAC<br>O/P:FULL~MIN. LOAD<br>Ta:25°C                              | V1: -0.08% ~ 0%                                                         |
| 3                                                                                                                                                                                                                                                         | LINE REGULATION                | V1: -0.5% ~ +0.5%                               | I/P: 85VAC~ 305VAC<br>O/P:FULL LOAD<br>Ta:25°C                                  | V1: -0.0083% ~ 0.0195%                                                  |
| 4                                                                                                                                                                                                                                                         | LOAD REGULATION                | V1: -1% ~ +1%                                   | I/P: 230VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25°C                                    | V1: -0.0333% ~ 0.0389%                                                  |
| 5                                                                                                                                                                                                                                                         | OVER/UNDERSHOOT TEST           | <±5%                                            | I/P: 230VAC<br>O/P:FULL LOAD / NO LOAD/ PEAK<br>LOAD<br>Ta:25°C                 | 0.86%                                                                   |
| 6                                                                                                                                                                                                                                                         | RIPPLE & NOISE (Max )          | V1: 120mVp-p                                    | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C                                          | 23mVp-p / high frequency<br>43mVp-p / low frequency                     |
| <div> <div>high frequency :</div>  </div> <div> <div>low frequency :</div>  </div> |                                |                                                 |                                                                                 |                                                                         |
| 7                                                                                                                                                                                                                                                         | SET UP TIME(Max)               | 277VAC/1500ms<br>230VAC/1500ms<br>115VAC/1500ms | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | 277VAC/401ms<br>230VAC/402ms<br>115VAC/ 402.8ms                         |
| INPUT=277VAC/50HZ @ FULL LOAD<br>CH1: Output Voltage CH3: AC Input Voltage                                                                                                                                                                                |                                |                                                 | INPUT=230VAC/50HZ @ FULL LOAD<br>CH1: Output Voltage CH3: AC Input Voltage      |                                                                         |



INPUT=115VAC/60HZ @ FULL LOAD

CH1: Output Voltage CH3: AC Input Voltage



INPUT=230VAC/50HZ @ FULL LOAD

CH1: Output Voltage CH3: AC Input Voltage



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RISE TIME (Max)

277VAC/150ms  
230VAC/150ms  
115VAC/150ms

I/P : 277 VAC

I/P : 230 VAC

I/P : 115 VAC

O/P : FULL LOAD

Ta : 25°C

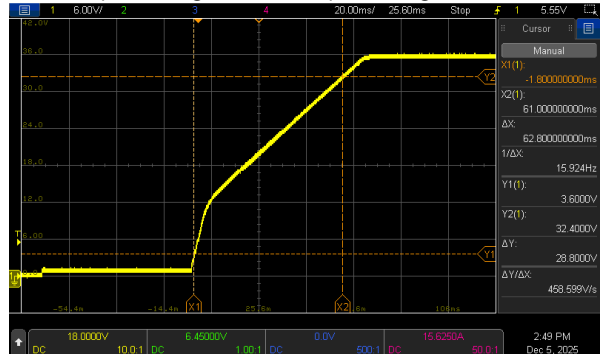
277VAC/ 62.8ms

230VAC/ 61.4ms

115VAC/ 62.6ms

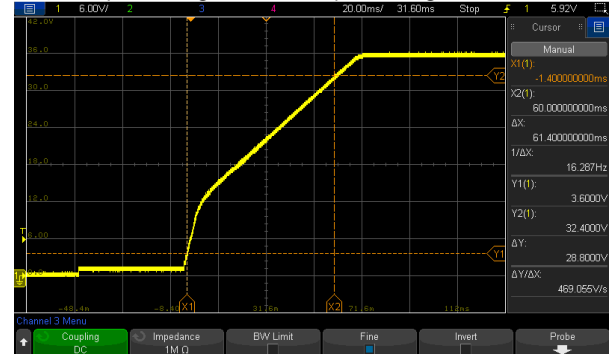
INPUT=277VAC/50HZ @ FULL LOAD

CH1: Output Voltage CH3: AC Input Voltage



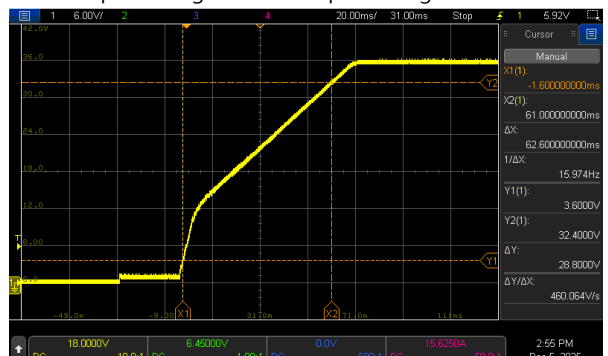
INPUT=230VAC/50HZ @ FULL LOAD

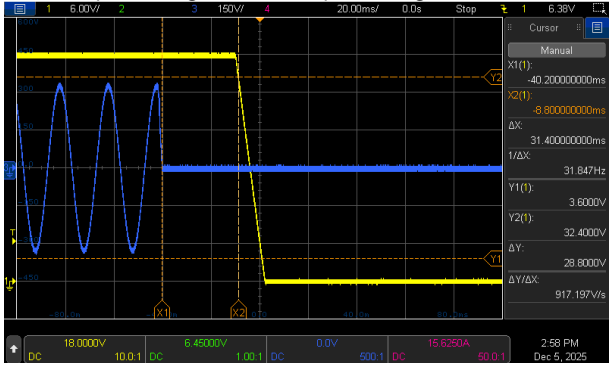
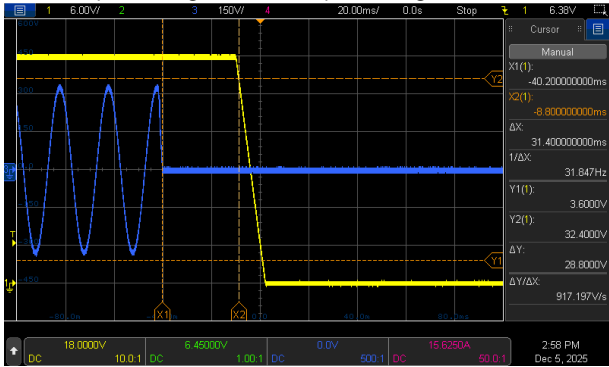
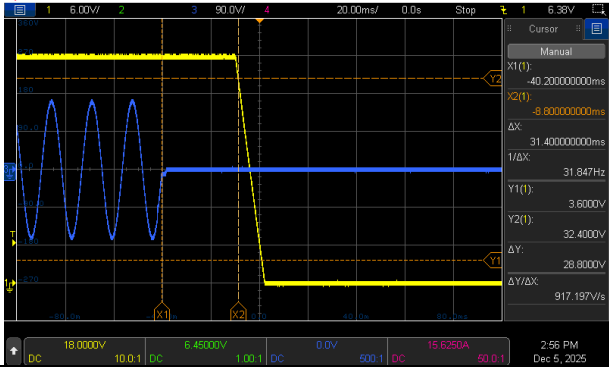
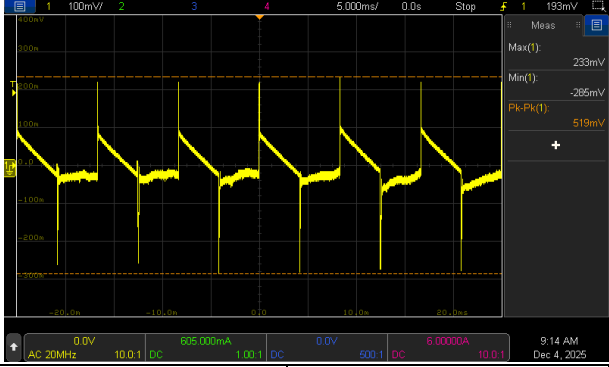
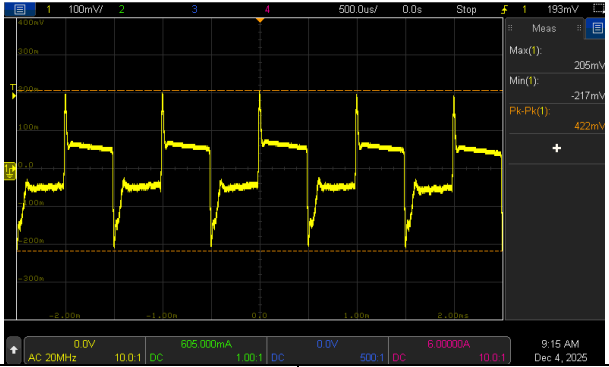
CH1: Output Voltage CH3: AC Input Voltage



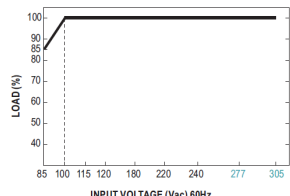
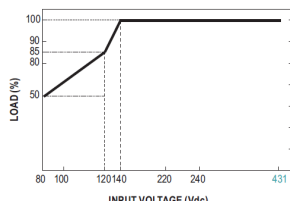
INPUT=115VAC/60HZ @ FULL LOAD

CH1: Output Voltage CH3: AC Input Voltage

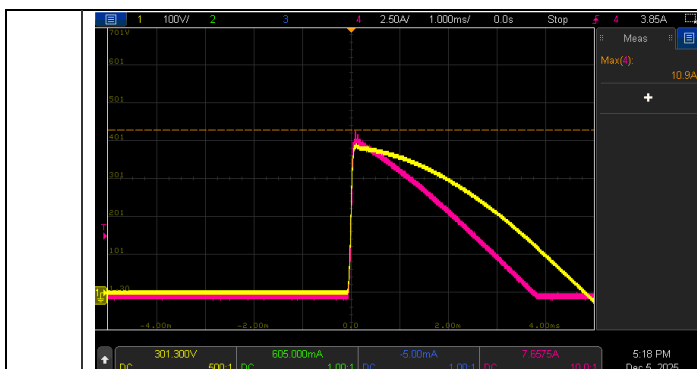


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                                              |                                                                                                           |                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | HOLD UP TIME (Typ.)     | 277VAC/ 20ms<br>230VAC/ 20ms<br>115VAC/ 20ms | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                           | 277VAC/31.4 ms<br>230VAC/ 31.4ms<br>115VAC/ 31.4ms |
| <div data-bbox="145 439 1528 1301"> <div> <p>INPUT=277VAC/50HZ @ FULL LOAD</p> <p>CH1: Output Voltage CH3: AC Input Voltage</p>  </div> <div> <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1: Output Voltage CH3: AC Input Voltage</p>  </div> <div> <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1: Output Voltage CH3: AC Input Voltage</p>  </div> </div> |                         |                                              |                                                                                                           |                                                    |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DYNAMIC LOAD            | V1: 3600mVp-p                                | I/P: 230VAC<br>O/P:<br>(1) FULL/ MIN LOAD 50%DUTY / 120HZ<br>(2) FULL/ MIN LOAD 50%DUTY / 1KHZ<br>Ta:25°C | 519mVp-p<br>422mVp-p                               |
| <div data-bbox="145 1559 1528 1962"> <div> <p>FULL / MIN LOAD 50%DUTY / 120HZ</p>  </div> <div> <p>FULL / MIN LOAD 50%DUTY / 1KHZ</p>  </div> </div>                                                                                                                                                                                                                                                                                 |                         |                                              |                                                                                                           |                                                    |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | TRANSIENT RECOVERY TIME | V1: 3600mVp-p<br><500us                      | I/P: 230VAC<br>O/P:40% LOAD CHANGE<br>50%DUTY/120HZ 1.25A/us                                              | 225mVp-p                                           |

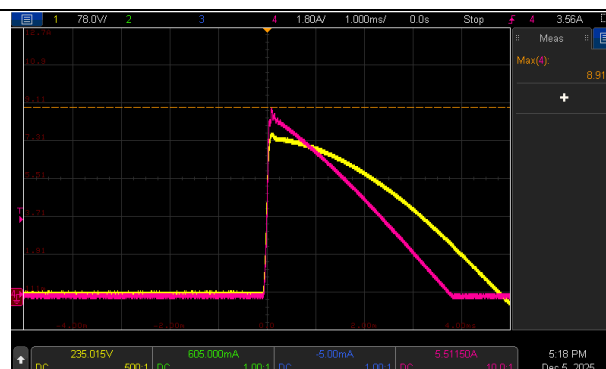
## INPUT FUNCTION TEST

| NO     | TEST ITEM             | SPECIFICATION                                                                                                                                                                                           | TEST CONDITION                                                                                                                                                                                | RESULT                                                                                                                                                                                                                                               |  |                  |                 |        |       |       |        |       |       |        |       |       |
|--------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|-----------------|--------|-------|-------|--------|-------|-------|--------|-------|-------|
| 1      | INPUT VOLTAGE RANGE   | 85VAC~305VAC<br>80VDC~ 431VDC<br><br> | (1) I/P: TESTING<br>O/P: FULL / 85% LOAD<br>(2) I/P: DC TESTING (L: + N: -)<br>O/P: FULL / 85% LOAD/ 50% LOAD<br>(3) I/P: DC TESTING (L: - N: +)<br>O/P: FULL / 85% LOAD/ 50% LOAD<br>Ta:25°C | (1) 76.9V~305V/ FULL LOAD<br>76.7V~305V/ 85% LOAD<br>(2) 75.5Vdc~431Vdc/FULL LOAD<br>75.5Vdc~431Vdc/85% LOAD<br>75.5Vdc~431Vdc/50% LOAD<br>(3) 75.5Vdc~431Vdc/FULL LOAD<br>75.5Vdc~431Vdc/85% LOAD<br>75.5Vdc~431Vdc/50% LOAD                        |  |                  |                 |        |       |       |        |       |       |        |       |       |
|        |                       |                                                                                                                                                                                                         | I/P:<br>HIGH-LINE+10V=315V<br>O/P:FULL/MIN LOAD<br>(PLEASE CHECK DERATING CURVE)<br>ON: 30 Sec OFF: 30 Sec 10MIN<br>( POWER ON/OFF NO DAMAGE )                                                | TEST : OK                                                                                                                                                                                                                                            |  |                  |                 |        |       |       |        |       |       |        |       |       |
|        |                       | Derating 50% Load @80VDC                                                                                                                                                                                | I/P: 80VDC<br>O/P: 50% Load                                                                                                                                                                   | TEST : OK                                                                                                                                                                                                                                            |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 2      | INPUT FREQUENCY RANGE | 47HZ ~63 HZ<br>NO DAMAGE                                                                                                                                                                                | I/P: 85VAC~ 305VAC<br>O/P:FULL~MIN LOAD<br>Ta:25°C                                                                                                                                            | TEST : OK                                                                                                                                                                                                                                            |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 3      | INPUT CURRENT (Typ.)  | 277V/ 1.1A<br>230V/ 1.3A<br>115V/ 2.6A                                                                                                                                                                  | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                               | I =0.98A/ 277VAC<br>I =1.11A/ 230VAC<br>I =2.23A/ 115VAC                                                                                                                                                                                             |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 4      | LEAKAGE CURRENT       | < 1mA@240Vac<br>< 1.3mA@277Vac                                                                                                                                                                          | I/P : 240VAC/60HZ<br>I/P : 277VAC/60HZ<br>O/P : Min LOAD<br>Ta : 25°C                                                                                                                         | 0.736mA@240Vac<br>0.844mA@277Vac                                                                                                                                                                                                                     |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 5      | NO LOAD CONSUMPTION   | Remote Power OFF:<br>1W@115Vac & 230Vac& 277Vac<br>Remote Power ON:<br>2.5W@115Vac & 230Vac& 277Vac                                                                                                     | I/P : 115VAC<br>I/P : 230VAC<br>I/P : 277VAC<br>O/P : NO LOAD<br>Ta : 25°C                                                                                                                    | TEST: <table><tr><td></td><td>Remote Power OFF</td><td>Remote Power ON</td></tr><tr><td>115VAC</td><td>0.56W</td><td>1.62W</td></tr><tr><td>230VAC</td><td>0.66W</td><td>1.66W</td></tr><tr><td>277VAC</td><td>0.73W</td><td>1.69W</td></tr></table> |  | Remote Power OFF | Remote Power ON | 115VAC | 0.56W | 1.62W | 230VAC | 0.66W | 1.66W | 277VAC | 0.73W | 1.69W |
|        | Remote Power OFF      | Remote Power ON                                                                                                                                                                                         |                                                                                                                                                                                               |                                                                                                                                                                                                                                                      |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 115VAC | 0.56W                 | 1.62W                                                                                                                                                                                                   |                                                                                                                                                                                               |                                                                                                                                                                                                                                                      |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 230VAC | 0.66W                 | 1.66W                                                                                                                                                                                                   |                                                                                                                                                                                               |                                                                                                                                                                                                                                                      |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 277VAC | 0.73W                 | 1.69W                                                                                                                                                                                                   |                                                                                                                                                                                               |                                                                                                                                                                                                                                                      |  |                  |                 |        |       |       |        |       |       |        |       |       |
| 6      | POWER FACTOR (Typ.)   | 0.9/277VAC<br>0.95/ 230VAC<br>0.98/115VAC                                                                                                                                                               | I/P : 277VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                                                | PF=0.9196/277VAC<br>PF=0.9802/230VAC<br>PF=0.9975/115VAC                                                                                                                                                                                             |  |                  |                 |        |       |       |        |       |       |        |       |       |

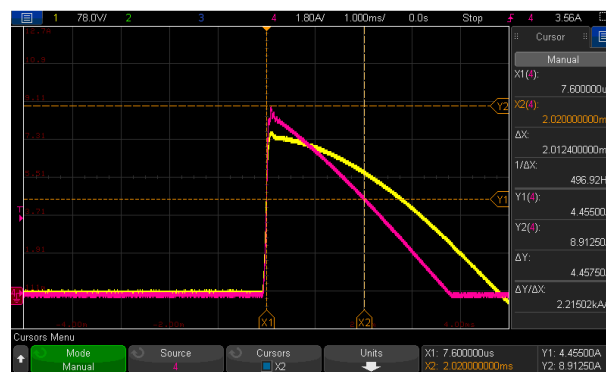
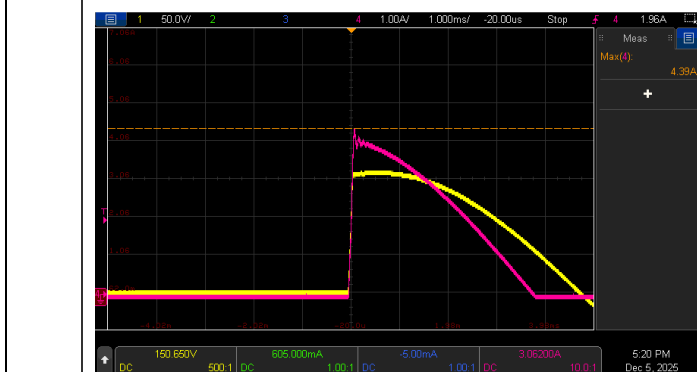
| <div>P.F vs LOAD</div> <div><table><caption>Approximate Power Factor (PF) vs Load Data</caption><thead><tr><th>LOAD (%)</th><th>115VAC</th><th>230VAC</th><th>277VAC</th></tr></thead><tbody><tr><td>10%</td><td>0.92</td><td>-</td><td>-</td></tr><tr><td>20%</td><td>0.98</td><td>0.72</td><td>-</td></tr><tr><td>30%</td><td>0.99</td><td>0.86</td><td>0.65</td></tr><tr><td>40%</td><td>0.99</td><td>0.92</td><td>0.75</td></tr><tr><td>50%</td><td>0.99</td><td>0.95</td><td>0.82</td></tr><tr><td>60%</td><td>0.99</td><td>0.96</td><td>0.85</td></tr><tr><td>70%</td><td>0.99</td><td>0.97</td><td>0.88</td></tr><tr><td>80%</td><td>0.99</td><td>0.97</td><td>0.90</td></tr><tr><td>90%</td><td>0.99</td><td>0.98</td><td>0.91</td></tr><tr><td>100%</td><td>0.99</td><td>0.98</td><td>0.91</td></tr></tbody></table></div> |                      |                                               |                                                                                 |                                                                                  | LOAD (%) | 115VAC | 230VAC | 277VAC | 10% | 0.92 | -  | -  | 20% | 0.98 | 0.72 | -  | 30% | 0.99 | 0.86 | 0.65 | 40% | 0.99 | 0.92 | 0.75 | 50% | 0.99 | 0.95 | 0.82 | 60% | 0.99 | 0.96 | 0.85 | 70% | 0.99 | 0.97 | 0.88 | 80% | 0.99 | 0.97 | 0.90 | 90% | 0.99 | 0.98 | 0.91 | 100% | 0.99 | 0.98 | 0.91 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------|--------|--------|--------|-----|------|----|----|-----|------|------|----|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|------|------|------|------|
| LOAD (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 115VAC               | 230VAC                                        | 277VAC                                                                          |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.92                 | -                                             | -                                                                               |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 20%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.98                 | 0.72                                          | -                                                                               |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 30%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.86                                          | 0.65                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.92                                          | 0.75                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.95                                          | 0.82                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 60%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.96                                          | 0.85                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 70%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.97                                          | 0.88                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 80%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.97                                          | 0.90                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.99                 | 0.98                                          | 0.91                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.99                 | 0.98                                          | 0.91                                                                            |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EFFICIENCY(Typ.)     | 95.5%                                         | I/P:230 VAC<br>O/P:FULL LOAD<br>Ta:25°C                                         | 96.13%                                                                           |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| <div>EFFICIENCY vs LOAD</div> <div><table><caption>Approximate Efficiency (%) vs Load Data</caption><thead><tr><th>LOAD (%)</th><th>115VAC</th><th>230VAC</th><th>277VAC</th></tr></thead><tbody><tr><td>10%</td><td>84</td><td>85</td><td>84</td></tr><tr><td>20%</td><td>89</td><td>91</td><td>90</td></tr><tr><td>30%</td><td>92</td><td>93</td><td>93</td></tr><tr><td>40%</td><td>93</td><td>94</td><td>94</td></tr><tr><td>50%</td><td>94</td><td>95</td><td>95</td></tr><tr><td>60%</td><td>94</td><td>95</td><td>95</td></tr><tr><td>70%</td><td>94</td><td>95</td><td>95</td></tr><tr><td>80%</td><td>94</td><td>95</td><td>95</td></tr><tr><td>90%</td><td>94</td><td>95</td><td>95</td></tr><tr><td>100%</td><td>94</td><td>95</td><td>95</td></tr></tbody></table></div>                                                |                      |                                               |                                                                                 |                                                                                  | LOAD (%) | 115VAC | 230VAC | 277VAC | 10% | 84   | 85 | 84 | 20% | 89   | 91   | 90 | 30% | 92   | 93   | 93   | 40% | 93   | 94   | 94   | 50% | 94   | 95   | 95   | 60% | 94   | 95   | 95   | 70% | 94   | 95   | 95   | 80% | 94   | 95   | 95   | 90% | 94   | 95   | 95   | 100% | 94   | 95   | 95   |
| LOAD (%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 115VAC               | 230VAC                                        | 277VAC                                                                          |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 84                   | 85                                            | 84                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 20%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 89                   | 91                                            | 90                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 30%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 92                   | 93                                            | 93                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 93                   | 94                                            | 94                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 94                   | 95                                            | 95                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 60%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 94                   | 95                                            | 95                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 70%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 94                   | 95                                            | 95                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 80%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 94                   | 95                                            | 95                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 94                   | 95                                            | 95                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 94                   | 95                                            | 95                                                                              |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | INRUSH CURRENT(Typ.) | 277V/15A<br>230V/10A<br>115V/6A<br>COLD START | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | I =10.9A / 277VAC<br>I =8.91A / 230VAC<br>I =4.39A / 115VAC<br>T50=2012.4us/230V |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| INPUT=277VAC/50HZ @ FULL LOAD<br>CH1: AC Input Voltage CH4: Input current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |                                               | INPUT=230VAC/50HZ @ FULL LOAD<br>CH1: AC Input Voltage CH4: Input current       |                                                                                  |          |        |        |        |     |      |    |    |     |      |      |    |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |



INPUT=115VAC/ 60HZ @ FULL LOAD  
CH1: AC Input Voltage CH4: Input current

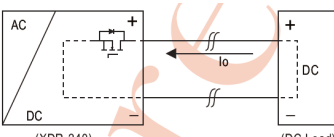


T50@230VAC :

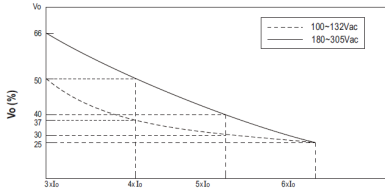
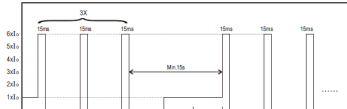


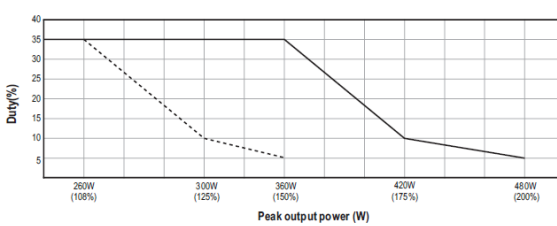
## PROTECTION FUNCTION TEST

| NO | TEST ITEM                   | SPECIFICATION                                                                                                                                                                                                 | TEST CONDITION                                                                       | RESULT                                                                                                                                                                                                                                                                        |
|----|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | OVER LOAD PROTECTION        | Protection type:<br>105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when $V_o=30\%\sim 100\%$ ;<br>Hiccup mode when $V_o<30\%$ rated voltage | I/P: 305VAC<br>I/P: 230VAC<br>I/P: 100VAC<br>O/P: TESTING<br>$T_a: 25^\circ\text{C}$ | TEST :<br>127.63%/305VAC<br>127.63%/230VAC<br>127.63%/100VAC<br>Protection type:<br>105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when $V_o=30\%\sim 100\%$ ;<br>Hiccup mode when $V_o<30\%$ rated voltage |
| 2  | OVER VOLTAGE PROTECTION     | 43V~50V<br>Protection type:<br>Shut down o/p voltage, re-power on to recover                                                                                                                                  | I/P: 305VAC<br>I/P: 85VAC<br>O/P: MIN LOAD<br>$T_a: 25^\circ\text{C}$                | 46.1V/ 305VAC<br>46.1V/ 85VAC<br>PROTECTION TYPE :<br>Shut down o/p voltage, re-power on to recover                                                                                                                                                                           |
| 3  | OVER TEMPERATURE PROTECTION | Protection type:<br>Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                 | I/P: 305VAC<br>I/P: 85VAC<br>O/P: FULL LOAD                                          | O.T.P Active OK<br>Protection type :<br>Shut down o/p voltage, recovers automatically after temperature goes down                                                                                                                                                             |

|   |                                                   |                                                                                                                                                                                         |                                             |                                                                                                                                            |
|---|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | SHORT PROTECTION                                  | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE<br>Protection type:<br>Hiccup mode when $V_o < 30\%$ rated voltage , recovers automatically after fault condition is removed                     | I/P: 305VAC<br>I/P: 85VAC<br>O/P: FULL LOAD | NO DAMAGE<br>PROTECTION TYPE : OK<br>Hiccup mode when $V_o < 30\%$ rated voltage , recovers automatically after fault condition is removed |
| 5 | Protection against Inverse Voltages from the Load | Prevent PSU damage from Back Electro magnetic Force during deceleration of motor or inductive load<br> | I/P: 230VAC<br>O/P: TESTING<br>Ta: 25°C     | TEST : <u>OK</u>                                                                                                                           |

## CONTROL FUNCTION TEST

| NO   | TEST ITEM               | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | TEST CONDITION                         | RESULT              |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
|------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|---------------------|------|------|----|----|-------|------|----|----|------|------|----|----|------|------|----|----|------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------|------|-----|------|----|------|------|------|-------|------|---------------|------|-----|------|----|------|------|------|----|
| 1    | DC OK CONTACT RATINGS   | 30VDC/1A , 30VAC/0.5A<br>RESISTIVE LOAD                                                                                                                                                                                                                                                                                                                                                                                                                                       | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C | TEST: <u>OK</u>     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 2    | REMOTE CONTROL          | Power ON:<br>Pin9 and Pin10 Short or keep 4~5Vdc<br>Power OFF:<br>Pin9 and Pin10 Open or keep < 0.5Vdc                                                                                                                                                                                                                                                                                                                                                                        | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C | TEST: <u>OK</u>     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 3    | PULSE CURRENT CAPABILTY | <div><table><thead><tr><th>Load</th><th>100~132Vac<br/>Vo(%)</th><th>180~305Vac<br/>Vo(%)</th><th>Time</th></tr></thead><tbody><tr><td>3xIo</td><td>50</td><td>66</td><td>100ms</td></tr><tr><td>4xIo</td><td>37</td><td>50</td><td>70ms</td></tr><tr><td>5xIo</td><td>30</td><td>40</td><td>40ms</td></tr><tr><td>6xIo</td><td>25</td><td>25</td><td>15ms</td></tr></tbody></table></div> | Load                                   | 100~132Vac<br>Vo(%) | 180~305Vac<br>Vo(%) | Time | 3xIo | 50 | 66 | 100ms | 4xIo | 37 | 50 | 70ms | 5xIo | 30 | 40 | 40ms | 6xIo | 25 | 25 | 15ms | I/P: 180VAC<br>I/P: 100VAC<br>O/P: TESTING<br>Ta:25°C | <b>180V :</b> <table><thead><tr><th>Load</th><th>Iout_Time(ms)</th></tr></thead><tbody><tr><td>3xIo</td><td>111</td></tr><tr><td>4xIo</td><td>85</td></tr><tr><td>5xIo</td><td>52.3</td></tr><tr><td>6xIo</td><td>27.18</td></tr></tbody></table> <b>100V :</b> <table><thead><tr><th>Load</th><th>Iout_Time(ms)</th></tr></thead><tbody><tr><td>3xIo</td><td>113</td></tr><tr><td>4xIo</td><td>88</td></tr><tr><td>5xIo</td><td>51.4</td></tr><tr><td>6xIo</td><td>26</td></tr></tbody></table> | Load | Iout_Time(ms) | 3xIo | 111 | 4xIo | 85 | 5xIo | 52.3 | 6xIo | 27.18 | Load | Iout_Time(ms) | 3xIo | 113 | 4xIo | 88 | 5xIo | 51.4 | 6xIo | 26 |
| Load | 100~132Vac<br>Vo(%)     | 180~305Vac<br>Vo(%)                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Time                                   |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 3xIo | 50                      | 66                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 100ms                                  |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 4xIo | 37                      | 50                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 70ms                                   |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 5xIo | 30                      | 40                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 40ms                                   |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 6xIo | 25                      | 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 15ms                                   |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| Load | Iout_Time(ms)           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 3xIo | 111                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 4xIo | 85                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 5xIo | 52.3                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 6xIo | 27.18                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| Load | Iout_Time(ms)           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 3xIo | 113                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 4xIo | 88                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 5xIo | 51.4                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 6xIo | 26                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        |                     |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |
| 4    | PULSE CURRENT CAPABILTY | <div></div>                                                                                                                                                                                                                                                                                                                                                                                | I/P:230VAC<br>O/P:TESTING<br>Ta:25°C   | TEST : <u>OK</u>    |                     |      |      |    |    |       |      |    |    |      |      |    |    |      |      |    |    |      |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |               |      |     |      |    |      |      |      |       |      |               |      |     |      |    |      |      |      |    |

| 5                                                                         | LED Status Indicators                                                                                                                                                                    | <table><thead><tr><th>Description</th><th>Output of alarm</th></tr></thead><tbody><tr><td>Restore Factory Settings</td><td>Green: 3 Blink/Pause  </td></tr><tr><td>DC OK</td><td>Green </td></tr><tr><td>DC Fail</td><td>Red </td></tr><tr><td>Overload<br/>(110Vac: +50% rated current)<br/>(220Vac: +200% rated current)</td><td>Red: 1 Blink/Pause  </td></tr><tr><td>Over voltage</td><td>Red: 2 Blink/Pause  </td></tr><tr><td>Over temperature</td><td>Red: 3 Blink/Pause  </td></tr><tr><td>Applied Reverse Voltages From The Load</td><td>Red: 4 Blink/Pause  </td></tr><tr><td>High Ambient Temperature Warning</td><td>Red: Blink  </td></tr><tr><td>Others (None)</td><td>Red: 5 Blink/Pause  </td></tr></tbody></table> <p><small>Note: Others include protection status, AC input, Internal Communication error and EEPROM error.</small></p> | Description                                  | Output of alarm | Restore Factory Settings | Green: 3 Blink/Pause   | DC OK | Green  | DC Fail | Red  | Overload<br>(110Vac: +50% rated current)<br>(220Vac: +200% rated current) | Red: 1 Blink/Pause   | Over voltage | Red: 2 Blink/Pause   | Over temperature | Red: 3 Blink/Pause   | Applied Reverse Voltages From The Load | Red: 4 Blink/Pause   | High Ambient Temperature Warning | Red: Blink   | Others (None) | Red: 5 Blink/Pause   | I/P:230VA0C<br>O/P: TESTING<br>Ta:25°C | TEST: <u>OK</u> |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------|
| Description                                                               | Output of alarm                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| Restore Factory Settings                                                  | Green: 3 Blink/Pause   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| DC OK                                                                     | Green                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| DC Fail                                                                   | Red                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| Overload<br>(110Vac: +50% rated current)<br>(220Vac: +200% rated current) | Red: 1 Blink/Pause     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| Over voltage                                                              | Red: 2 Blink/Pause     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| Over temperature                                                          | Red: 3 Blink/Pause     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| Applied Reverse Voltages From The Load                                    | Red: 4 Blink/Pause     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| High Ambient Temperature Warning                                          | Red: Blink             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| Others (None)                                                             | Red: 5 Blink/Pause     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                              |                 |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| 6                                                                         | PARALLEL                                                                                                                                                                                 | Up to 960W (3+1), please refer to Function Manual for more details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I/P: TESTING<br>O/P: TESTING LOAD<br>Ta:25°C | TEST: <u>OK</u> |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |
| 7                                                                         | PEAK Power                                                                                                                                                                               | I/P: 100/200VAC<br>O/P:<br><br>-----100VAC      ————200VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                              | TEST: <u>OK</u> |                          |                                                                                                                                                                                          |       |                                                                                         |         |                                                                                       |                                                                           |                                                                                                                                                                                        |              |                                                                                                                                                                                        |                  |                                                                                                                                                                                        |                                        |                                                                                                                                                                                        |                                  |                                                                                                                                                                                |               |                                                                                                                                                                                        |                                        |                 |

## COMPONENT STRESS TEST

| NO | TEST ITEM                                                | SPECIFICATION              | TEST CONDITION                                                                                                                                                                                                                                                                                                                                                                  | RESULT                                                                                                                                                                                                                       |
|----|----------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | PWM Transistor<br>(D to S) or (C to E)<br>Peak Voltage   | Q5/Q6 :<br>Rated: 600V/21A | AC ON/OFF<br>I/P: High-Line +3V = 308V<br>VDS:<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7) 0%→400% Load.<br>(8) Peak Load<br>Ta: 25°C | Q5<br>VDS:<br>(1) 501V<br>(2) 525V<br>(3) 505V<br>(4) 509V<br>(5) 505V<br>(6) 509V<br>(7) 517V<br>(8) 513V<br><br>Q6<br>VDS:<br>(1) 505V<br>(2) 509V<br>(3) 505V<br>(4) 505V<br>(5) 505V<br>(6) 505V<br>(7) 509V<br>(8) 505V |
| 2  | P.F.C Transistor<br>(D to S) or (C to E)<br>Peak Voltage | Q1 :<br>Rated: 600V/34A    | AC ON/OFF<br>I/P: High-Line +3V = 308V<br>VDS:<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz                                                                                                                                                                      | VDS:<br>(1) 452V<br>(2) 454V<br>(3) 451V<br>(4) 451V<br>(5) 451V<br>(6) 454V<br>(7) 454V<br>(8) 447V                                                                                                                         |

|   |                                                         |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                     |
|---|---------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                         |                               | (5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7) 0%→400% Load.<br>(8) Peak Load<br>Ta:25°C                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 | P.F.C DIODE                                             | D1 :<br>Rated: 4A/650V        | I/P: High-Line +3V =308 V<br>AC ON/OFF<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(4) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(5) Peak Load<br>Ta:25°C                                                                                                                                                                                                                          | (1) 417V<br>(2) 410V<br>(3) 427V<br>(4) 427V<br>(5) 427V                                                                                                                                                                                                                                                                                                                            |
| 4 | Diode Peak Voltage                                      | Q101/Q103:<br>Rated: 150V/76A | AC ON/OFF<br>I/P: High-Line +3V =308 V<br><u>VO=Vomax</u><br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7) 0%→400% Load.<br>(8).NO LOAD<br>(9) Peak Load<br><br><u>VO=Vonormal</u><br>O/P: (1) Full Load<br>Ta:25°C | Q101:<br><u>VO=Vomax</u><br>VDS:<br>(1) 106V<br>(2) 106V<br>(3) 106V<br>(4) 106V<br>(5) 106V<br>(6) 106V<br>(7) 105.3V<br>(8) 102.4V<br>(9) 112.5V<br><u>VO=Vonormal</u><br>(1) 95.9V<br>Q103:<br><u>VO=Vomax</u><br>VDS:<br>(1) 99.5V<br>(2) 99.5V<br>(3) 101.7V<br>(4) 99.5V<br>(5) 99.5V<br>(6) 103.9V<br>(7) 108.2V<br>(8) 95.2V<br>(9) 101.7V<br><u>VO=Vonormal</u><br>(1) 91V |
| 5 | AUX Transistor<br>( D to S) or (C to E)<br>Peak Voltage | U2 :<br>Rated: 725V/654mA     | AC ON/OFF<br>I/P: High-Line +3V =308V<br>VDS:<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/                                                                                                                                                        | VDS:<br>(1) 569V<br>(2) 565V<br>(3) 565V<br>(4) 565V<br>(5) 565V<br>(6) 565V<br>(7) 565V<br>(8) 565V                                                                                                                                                                                                                                                                                |

|   |                                 |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                        |
|---|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                 |                                                                                                                                                                                                 | Min. Load 50%Duty/120Hz<br>(7)0%→400% Load.<br>(8) Peak Load<br>Ta:25°C                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                        |
| 6 | AUX Clamp Diode<br>Peak Voltage | D 19 :<br>Rated : 1A/ 650V                                                                                                                                                                      | AC ON/OFF<br>I/P : High-Line +3V = 308V<br>O/P : (1) Dynamic Load<br>90%Duty/1KHz<br>(2) Full load continue<br>Ta : 25°C                                                                                                                                                                                                                                                           | (1) 538V<br>(2) 519V                                                                                                                                                                                                                                                                                                   |
| 7 | AUX Diode Peak<br>Voltage       | D200 : US1D<br>Rated : 1A/200V<br><br>D22 : ES1J<br>Rated : 1A/600V                                                                                                                             | AC ON/OFF<br>I/P: High-Line +3V =308 V<br>O/P: (1)Full Load<br>(2)Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/1KHz<br>(4) Dynamic Load Full Load/<br>Min. Load 90%Duty/3KHz<br>(5) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(6) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>(7)0%→400% Load.<br>(8).NO LOAD<br>(9) Peak Load<br>Ta:25°C | D200:<br>(1) 104.2V<br>(2) 103.5V<br>(3) 104.2V<br>(4) 105.7V<br>(5) 104.2V<br>(6) 104.2V<br>(7) 105.7V<br>(8) 103.5V<br>(9) 105.7V<br>D22:<br>(1) 121.6V<br>(2) 120.7V<br>(3) 119.9V<br>(4) 119.0V<br>(5) 120.7V<br>(6) 119.9V<br>(7) 120.7V<br>(8) 118.2V<br>(9) 121.6V                                              |
| 8 | Input Capacitor<br>Voltage      | C5 :<br>Rated: 100μ /450V                                                                                                                                                                       | I/P: High-Line +3V =308V<br>O/P: (1)Full Load input on/off<br>(2) Min load input on /Off<br>(3) Full Load /Min load Change<br>(4) Full load continue<br>(5) Peak Load on/off<br>(6) Peak Load continue<br>Ta:25°C                                                                                                                                                                  | (1) 440V<br>(2) 444V<br>(3) 437V<br>(4) 431V<br>(5) 444V<br>(6) 431V                                                                                                                                                                                                                                                   |
| 9 | Control IC Voltage<br>Test      | PFC/PWM IC U1 :<br>Rated : 12.5V~ 27.9V<br>Vstart=18.2~19.7V<br><br>O/P IC U101:<br>Rated: 4.75V~38V<br><br>IC U205 :<br>Rated : 3.3V~36V<br><br>IC U404 :<br>Rated : 3V~36V<br><br>AUX IC U2 : | AC ON/OFF<br>I/P: High-Line +3V =308V<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) O.L.P<br>(4) O.V.P.<br>(5) No Load VR min (Low Line)<br><br>MCU : 36V/85V<br>(1) Full Load<br>(2) Output Short<br>(3) O.L.P<br>(4) O.V.P.<br>(5) No Load VR min (LOW LINE)<br>Ta:25°C                                                                                                       | U1<br>(1) 20.5V<br>(2) 18.7V<br>(3) 23.2V<br>(4) 15.2V<br>(5) 20.3V<br>U2<br>(1) 6.43V<br>(2) 6.52V<br>(3) 6.48V<br>(4) 6.43V<br>(5) 6.43<br><br>U101<br>(1) 12.95V<br>(2) 15.94V<br>(3) 13.24V<br>(4) 14.11V<br>(5) 14.11V<br>U102<br>(1) 14.2V<br>(2) 14.2V<br>(3) 14.2V<br>(4) 14.2V<br>(5) 14.2V<br><br>U205<br>U9 |

|  |  |                       |  |            |            |
|--|--|-----------------------|--|------------|------------|
|  |  | Rated : 5.65V~6.8V    |  | (1) 14.78V | (1) 3.306V |
|  |  | ORING IC U102 :       |  | (2) 14.78V | (2) 3.306V |
|  |  | Rated : 3V~32V        |  | (3) 13.78V | (3) 3.306V |
|  |  |                       |  | (4) 14.69V | (4) 3.306V |
|  |  |                       |  | (5) 14.69V | (5) 3.306V |
|  |  | MCU IC U9 :           |  | U404       | U306       |
|  |  | Rated : 2V~3.6V       |  | (1) 5.61V  | (1) 3.298V |
|  |  | Level: 3.2835~3.3165V |  | (2) 5.62V  | (2) 3.298V |
|  |  |                       |  | (3) 5.58V  | (3) 3.298V |
|  |  | MCU IC U306:          |  | (4) 5.58V  | (4) 3.298V |
|  |  | Rated : 2.4V~ 3.6V    |  | (5) 5.58V  | (5) 3.298V |
|  |  | Level: 3.2835~3.3165V |  |            |            |

## ■ SAFETY& E.M.C. TEST

### SAFETY TEST

| NO | TEST ITEM            | SPECIFICATION                                                                               | TEST CONDITION                                                                                              | RESULT                                                                                |
|----|----------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 4 KVAC/min<br>I/P-FG: 2 KVAC/min<br>O/P-FG:1.5 KVAC/min<br>O/P-DC OK: 0.5 KVAC/min | I/P-O/P: 4.4 KVAC/min<br>I/P-FG: 2.4 KVAC/min<br>O/P-FG: 1.8 KVAC/min<br>O/P-DC OK: 0.6 KVAC/min<br>Ta:25°C | I/P-O/P: 3.89mA<br>I/P-FG: 3.8mA<br>O/P-FG: 4.13mA<br>O/P-DC OK: 0.007mA<br>NO DAMAGE |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ<br>I/P-FG: 500VDC>100MΩ<br>O/P-FG:500VDC>100MΩ                         | I/P-O/P: 600 VDC<br>I/P-FG: 600 VDC<br>O/P-FG: 600 VDC<br>Ta:25°C                                           | I/P-O/P: 50GΩ<br>I/P-FG: 50 GΩ<br>O/P-FG: 50GΩ<br>NO DAMAGE                           |
| 3  | GROUNDING CONTINUITY | FG(PE) TO CHASSIS<br>OR TRACE < 100mΩ                                                       | 40A /2min<br>Ta:25°C                                                                                        | 5mΩ                                                                                   |

### E.M.C TEST

| NO | TEST ITEM  | SPECIFICATION                                                     | TEST CONDITION                                           | RESULT                        |
|----|------------|-------------------------------------------------------------------|----------------------------------------------------------|-------------------------------|
| 1  | HARMONIC   | BS EN/EN61000-3-2<br>CLASS A                                      | I/P:230VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C              | PASS                          |
| 2  | CONDUCTION | BS EN/EN55032 (CISPR32)<br>BS EN/EN61204-3<br>CNS15936<br>CLASS B | I/P : 230 VAC (50HZ)<br>O/P : FULL/50% LOAD<br>Ta : 25°C | PASS<br>Test by certified Lab |
| 3  | RADIATION  | BS EN/EN55032 (CISPR32)<br>BS EN/EN61204-3<br>CNS15936<br>CLASS B | I/P : 230 VAC (50HZ)<br>O/P : FULL LOAD<br>Ta : 25°C     | PASS<br>Test by certified Lab |
| 4  | E.S.D      | BS EN/EN 61000-4-2<br>AIR : 15KV / Contact : 8KV                  | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |

|   |                                                                                                                                   |                                                 |                                                    |            |
|---|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------|------------|
| 5 | E.F.T                                                                                                                             | BS EN/EN 61000-4-4<br>INPUT : 4KV               | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C | CRITERIA A |
| 6 | SURGE                                                                                                                             | BS E /EN 61000-4-5<br>L-N : 2KV<br>L,N-PE : 4KV | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C | CRITERIA A |
| 7 | Test by certified Lab & Test Report Prepare<br>Any contradictions of the test results, please refer to the latest EMC test report |                                                 |                                                    |            |

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

| NO | TEST ITEM             | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | TEST CONDITION         | RESULT |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
|----|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------|----|----------|------------------------|------------------------|---|----|--------|--------|---|----|--------|--------|---|--------|--------|--------|---|--------|--------|--------|---|------|--------|--------|---|------|--------|--------|---|----|--------|--------|---|------|--------|--------|---|----|--------|--------|----|----|--------|--------|----|----|--------|--------|----|------|--------|--------|----|-----|--------|--------|----|----|--------|--------|----|----|--------|--------|----|----|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|-------|--------|--------|----|------|--------|--------|----|-------|--------|--------|----|------|--------|--------|
| 1  | TEMPERATURE RISE TEST | MODEL : XDR-240-36<br>1. ROOM AMBIENT BURN-IN : 2HRS<br>I/P : 230VAC O/P : FULL LOAD Ta=25.6°C<br>2. HIGH AMBIENT BURN-IN : 2HRS<br>I/P : 230VAC O/P : FULL LOAD Ta= 60.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
|    |                       | <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=25.6°C</th><th>HIGH AMBIENT Ta=60.2°C</th></tr><tr><td>1</td><td>Q6</td><td>48.8°C</td><td>83.0°C</td></tr><tr><td>2</td><td>Q5</td><td>48.7°C</td><td>82.7°C</td></tr><tr><td>3</td><td>T1ciol</td><td>57.1°C</td><td>90.8°C</td></tr><tr><td>4</td><td>T1core</td><td>49.5°C</td><td>82.7°C</td></tr><tr><td>5</td><td>C107</td><td>46.2°C</td><td>79.6°C</td></tr><tr><td>6</td><td>C202</td><td>45.8°C</td><td>80.3°C</td></tr><tr><td>7</td><td>C6</td><td>45.2°C</td><td>79.2°C</td></tr><tr><td>8</td><td>C109</td><td>46.6°C</td><td>80.4°C</td></tr><tr><td>9</td><td>Q1</td><td>50.7°C</td><td>85.0°C</td></tr><tr><td>10</td><td>L1</td><td>50.3°C</td><td>84.9°C</td></tr><tr><td>11</td><td>L2</td><td>25.9°C</td><td>61.4°C</td></tr><tr><td>12</td><td>RTH3</td><td>48.7°C</td><td>83.1°C</td></tr><tr><td>13</td><td>BD1</td><td>50.8°C</td><td>84.4°C</td></tr><tr><td>14</td><td>U1</td><td>54.7°C</td><td>88.3°C</td></tr><tr><td>15</td><td>U4</td><td>46.4°C</td><td>80.1°C</td></tr><tr><td>16</td><td>U2</td><td>50.0°C</td><td>83.8°C</td></tr><tr><td>17</td><td>RTH5</td><td>48.0°C</td><td>81.7°C</td></tr><tr><td>18</td><td>Q102</td><td>49.6°C</td><td>83.5°C</td></tr><tr><td>19</td><td>U306</td><td>48.6°C</td><td>82.0°C</td></tr><tr><td>20</td><td>RY100</td><td>48.3°C</td><td>80.7°C</td></tr><tr><td>21</td><td>U400</td><td>49.0°C</td><td>82.5°C</td></tr><tr><td>22</td><td>LF100</td><td>45.7°C</td><td>79.3°C</td></tr><tr><td>23</td><td>U101</td><td>55.9°C</td><td>89.2°C</td></tr></table> |                        |        | NO | Position | ROOM AMBIENT Ta=25.6°C | HIGH AMBIENT Ta=60.2°C | 1 | Q6 | 48.8°C | 83.0°C | 2 | Q5 | 48.7°C | 82.7°C | 3 | T1ciol | 57.1°C | 90.8°C | 4 | T1core | 49.5°C | 82.7°C | 5 | C107 | 46.2°C | 79.6°C | 6 | C202 | 45.8°C | 80.3°C | 7 | C6 | 45.2°C | 79.2°C | 8 | C109 | 46.6°C | 80.4°C | 9 | Q1 | 50.7°C | 85.0°C | 10 | L1 | 50.3°C | 84.9°C | 11 | L2 | 25.9°C | 61.4°C | 12 | RTH3 | 48.7°C | 83.1°C | 13 | BD1 | 50.8°C | 84.4°C | 14 | U1 | 54.7°C | 88.3°C | 15 | U4 | 46.4°C | 80.1°C | 16 | U2 | 50.0°C | 83.8°C | 17 | RTH5 | 48.0°C | 81.7°C | 18 | Q102 | 49.6°C | 83.5°C | 19 | U306 | 48.6°C | 82.0°C | 20 | RY100 | 48.3°C | 80.7°C | 21 | U400 | 49.0°C | 82.5°C | 22 | LF100 | 45.7°C | 79.3°C | 23 | U101 | 55.9°C | 89.2°C |
| NO | Position              | ROOM AMBIENT Ta=25.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HIGH AMBIENT Ta=60.2°C |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 1  | Q6                    | 48.8°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 83.0°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 2  | Q5                    | 48.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 82.7°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 3  | T1ciol                | 57.1°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 90.8°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 4  | T1core                | 49.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 82.7°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 5  | C107                  | 46.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 79.6°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 6  | C202                  | 45.8°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 80.3°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 7  | C6                    | 45.2°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 79.2°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 8  | C109                  | 46.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 80.4°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 9  | Q1                    | 50.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 85.0°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 10 | L1                    | 50.3°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 84.9°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 11 | L2                    | 25.9°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 61.4°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 12 | RTH3                  | 48.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 83.1°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 13 | BD1                   | 50.8°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 84.4°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 14 | U1                    | 54.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 88.3°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 15 | U4                    | 46.4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 80.1°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 16 | U2                    | 50.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 83.8°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 17 | RTH5                  | 48.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 81.7°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 18 | Q102                  | 49.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 83.5°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 19 | U306                  | 48.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 82.0°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 20 | RY100                 | 48.3°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 80.7°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 21 | U400                  | 49.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 82.5°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 22 | LF100                 | 45.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 79.3°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |
| 23 | U101                  | 55.9°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 89.2°C                 |        |    |          |                        |                        |   |    |        |        |   |    |        |        |   |        |        |        |   |        |        |        |   |      |        |        |   |      |        |        |   |    |        |        |   |      |        |        |   |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |     |        |        |    |    |        |        |    |    |        |        |    |    |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |       |        |        |    |      |        |        |    |       |        |        |    |      |        |        |

|    |                                                                   |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                               |                                                                 |
|----|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| 2  | OVER LOAD BURN-IN TEST                                            | NO DAMAGE<br>1 HOUR ( MIN )                                                                                                                                                                                                                                           | I/P : 230 VAC<br>O/P : 122%LOAD<br>Ta : 25°C                                                                                                                                                                                                                                                                  | TEST : OK                                                       |
| 3  | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER 2 HOUR                                                                                                                                                                                                                                                  | I/P : 305VAC/100VAC<br>O/P : 80%100%LOAD<br>Ta= -45°C/-35°C                                                                                                                                                                                                                                                   | TEST : OK                                                       |
| 4  | HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST | AFTER 12 HOURS<br>IN CHAMBER ON<br>CONTROL 60°C/95 %R.H<br>NO DAMAGE                                                                                                                                                                                                  | I/P : 315 VAC<br>O/P : FULL LOAD<br>Ta= 60°C<br>HUMIDITY= 95 %R.H                                                                                                                                                                                                                                             | TEST : OK                                                       |
| 5  | TEMPERATURE<br>COEFFICIENT                                        | ± 0.03%/°C(0~60°C)                                                                                                                                                                                                                                                    | I/P : 230 VAC<br>O/P : FULL LOAD                                                                                                                                                                                                                                                                              | ±0.003%/°C(0~60°C)                                              |
| 6  | STORAGE TEMPERATURE<br>TEST                                       | -40~85°C                                                                                                                                                                                                                                                              | 1. Thermal shock Temperature : -45°C~ +90°C<br>2. Temperature change rate : 25°C / MIN<br>3. Dwell time low and high temperature : 30 MIN/EACH<br>4. Total test cycle : 10 CYCLE<br>5. Input/Output condition : STATIC                                                                                        |                                                                 |
| 7  | THERMAL SHOCK TEST                                                | -30~60°C                                                                                                                                                                                                                                                              | 1. Thermal shock Temperature : -35°C~ +65°C<br>2. Temperature change rate : 25°C / MIN<br>3. Dwell time low and high temperature : 30 MIN/EACH<br>4. Total test cycle : 16 CYCLE<br>5. Input/Output condition :<br>15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST<br>1cycle:230V/ FULL LOAD Burn In Test |                                                                 |
| 8  | VIBRATION TEST                                                    | 10 ~ 500Hz, 2G 10min./1cycle,<br>60min. each along X, Y, Z axes                                                                                                                                                                                                       | 1 Carton & 1 Set<br>(1) Waveform : Sine Wave<br>(2) Frequency : 10~500Hz<br>(3) Sweep Time : 10min/sweep cycle<br>(4) Acceleration : 3G<br>(5) Test Time : 180min in each axis (X.Y.Z)<br>(6) Ta : 25°C                                                                                                       |                                                                 |
| 9  | CAPACITOR<br>LIFE CYCLE                                           | SUPPOSE C107 IS THE MOST CRITICAL COMPONENT<br>(1) I/P : 230VAC O/P : FULL LOAD Ta= 25°C LIFE TIME<br>(2) I/P : 230VAC O/P : FULL LOAD Ta= 60°C LIFE TIME<br>(3) I/P : 230VAC O/P : 75% LOAD Ta= 60°C LIFE TIME<br>(4) I/P : 230VAC O/P : 50% LOAD Ta= 60°C LIFE TIME |                                                                                                                                                                                                                                                                                                               | (1) 886081HRS<br>(2) 85112HRS<br>(3) 107606HRS<br>(4) 158968HRS |
| 10 | MTBF                                                              | Conducted by Parts Stress Analysis Prediction<br>1066.2K hrs min. Telcordia SR-332 (Bellcore) ; 129.1K hrs min. MIL-HDBK-217F (25°C)                                                                                                                                  |                                                                                                                                                                                                                                                                                                               |                                                                 |
| 11 | Ongoing Reliability Test                                          | I/P : 230VAC O/P : FULL LOAD TA=50°C<br>Demonstration Mean Time Between Failure : 50,000 hours                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                               |                                                                 |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|--------|--------|----------|
| PASS        | Hanxr  | Liutt  | Wangdz   |

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