



# Test Report: NSP-100-48

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100W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply

## ■ 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

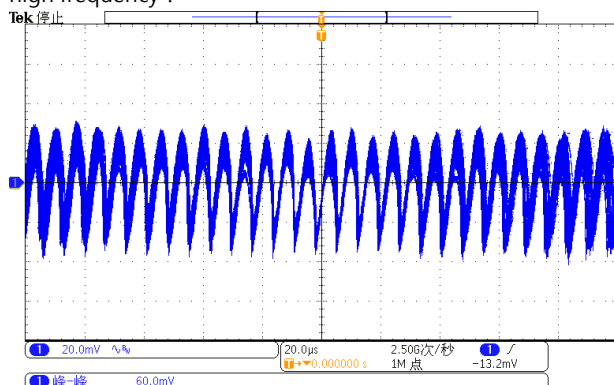
ENVIRONMENT TEST

## DESIGN VERIFY TEST

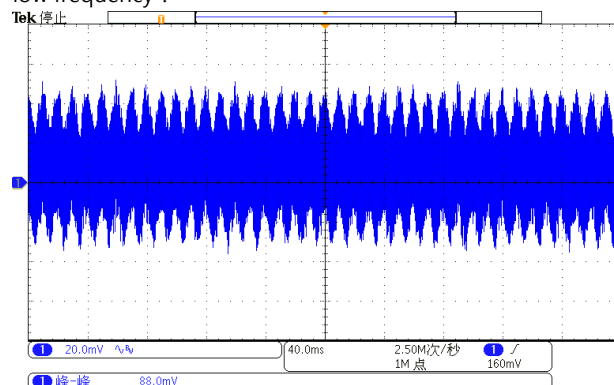
### OUTPUT FUNCTION TEST

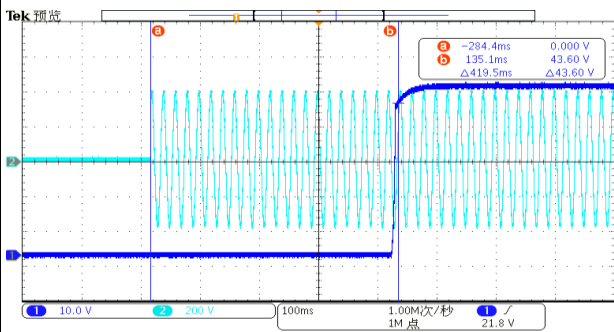
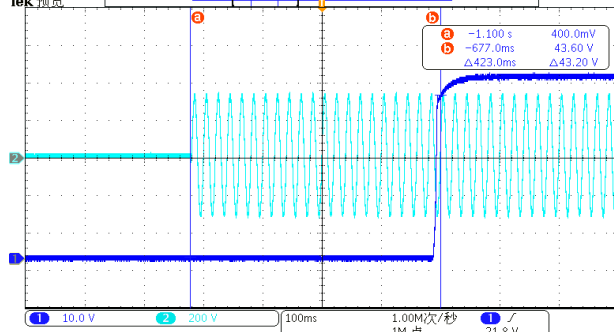
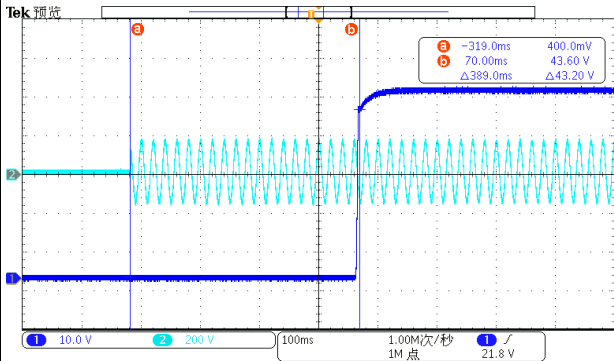
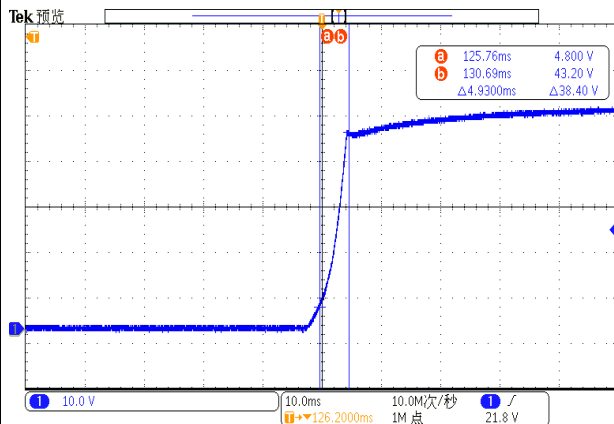
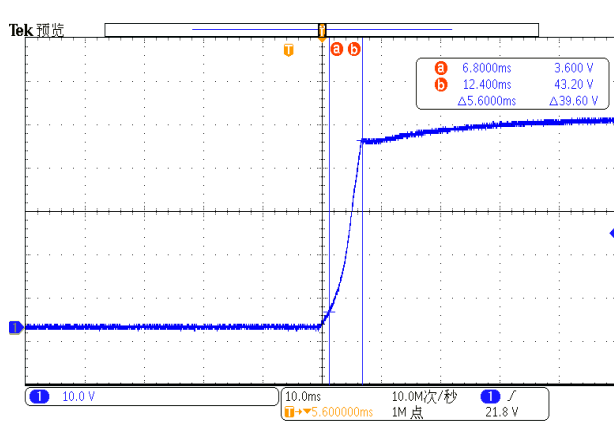
| NO | TEST ITEM                      | SPECIFICATION   | TEST CONDITION                                       | RESULT                  |
|----|--------------------------------|-----------------|------------------------------------------------------|-------------------------|
| 1  | OUTPUT VOLTAGE<br>ADJUST RANGE | CH1: 44V~ 57V   | I/P : 230 VAC<br>O/P : MIN LOAD<br>Ta : 25°C         | 42.05V~59.93V/230VAC    |
| 2  | OUTPUT VOLTAGE<br>TOLERANCE    | V1: -1.0%~ 1.0% | I/P: 85VAC /305VAC<br>O/P:FULL/ MIN. LOAD<br>Ta:25°C | V1: 0.04%~ 0.08%        |
| 3  | LINE REGULATION                | V1: -0.5%~ 0.5% | I/P: 85VAC~ 305VAC<br>O/P:FULL LOAD<br>Ta:25°C       | V1: 0%~ 0.02%           |
| 4  | LOAD REGULATION                | V1: -0.5%~ 0.5% | I/P: 230VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25°C         | V1: -0.02%~0%           |
| 5  | OVER/UNDERSHOOT TEST           | <± 5%           | I/P: 230VAC<br>O/P:FULL LOAD<br>Ta:25°C              | 3.15 %                  |
| 6  | RIPPLE & NOISE (Max )          | V1:240mVp-p     | I/P: 230 VAC<br>O/P: MIN LOAD—FULL LOAD<br>Ta:25°C   | V1: 88mVp-p / 100% load |

high frequency :

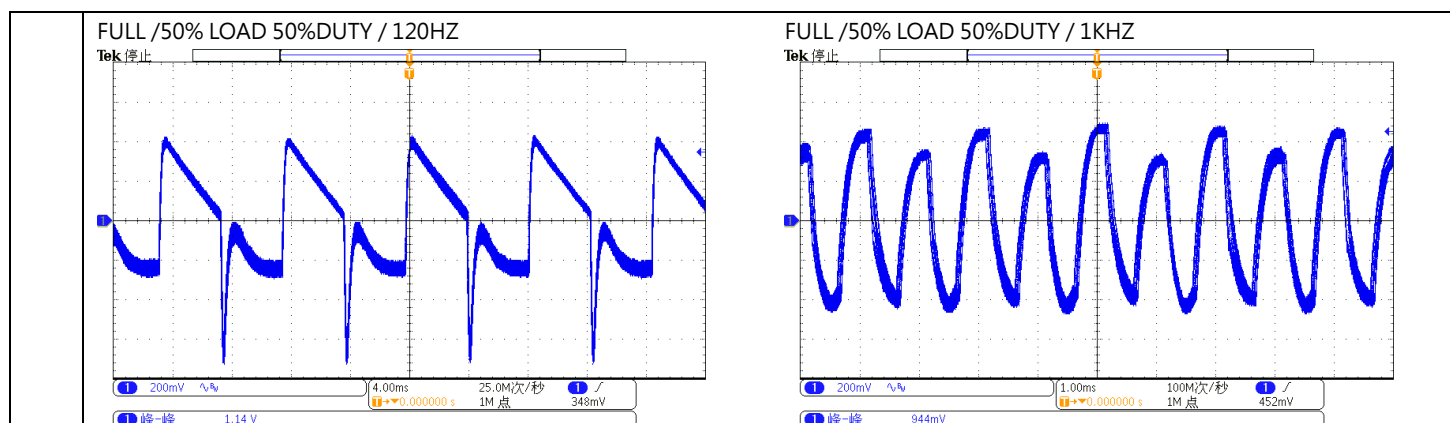


low frequency :



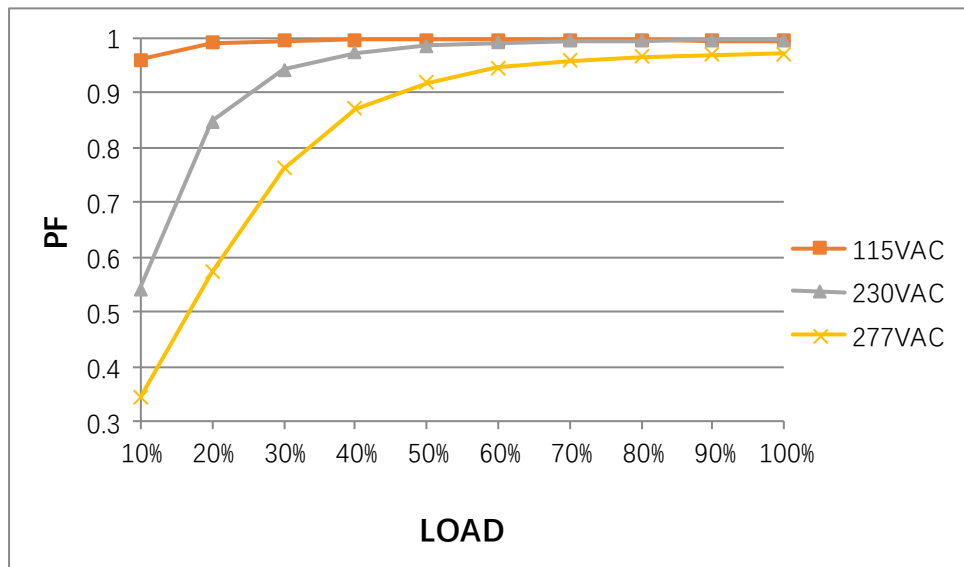
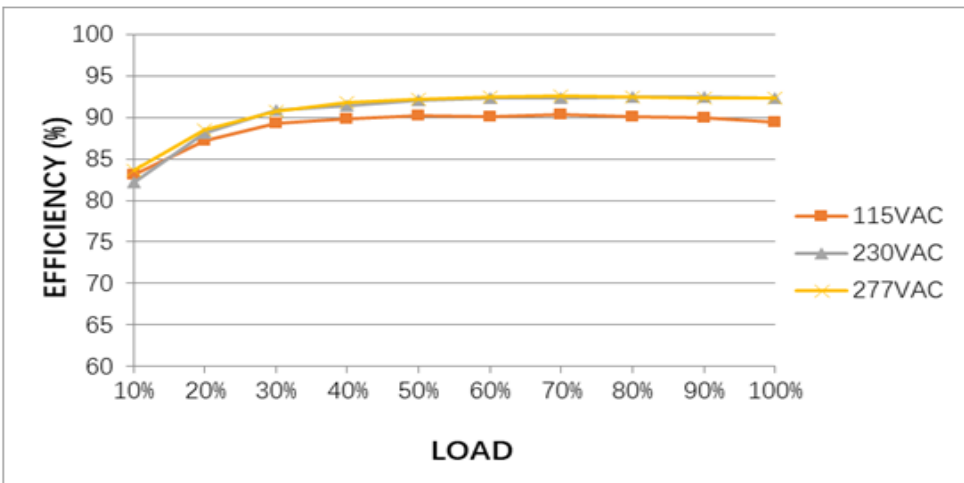
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |                                                 |                                                                                |                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------|
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SET UP TIME(Max) | 277VAC/1000ms<br>230VAC/1000ms<br>115VAC/1500ms | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115VAC<br>O/P : FULL LOAD<br>Ta : 25°C | 277VAC/419.5ms<br>230VAC/423ms<br>115VAC/ 389ms |
| <div> <div> <p>INPUT=277VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p>  <p>10.0 V 200 V 100ms 1.00M次/秒 1M点 21.8 V</p> </div> <div> <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p>  <p>10.0 V 200 V 100ms 1.00M次/秒 1M点 21.8 V</p> </div> </div> |                  |                                                 |                                                                                |                                                 |
| <div> <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p>  <p>10.0 V 200 V 100ms 1.00M次/秒 1M点 21.8 V</p> </div>                                                                                                                                                                                                                                                   |                  |                                                 |                                                                                |                                                 |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | RISE TIME (Max)  | 277VAC/80ms<br>230VAC/80ms<br>115VAC/80ms       | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115VAC<br>O/P : FULL LOAD<br>Ta : 25°C | 277VAC/4.93ms<br>230VAC/ 5.6ms<br>115VAC/3.06ms |
| <div> <div> <p>INPUT=277VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage</p>  <p>10.0 V 10.0ms 10.0M次/秒 1M点 21.8 V</p> </div> <div> <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage</p>  <p>10.0 V 10.0ms 10.0M次/秒 1M点 21.8 V</p> </div> </div>                                                     |                  |                                                 |                                                                                |                                                 |

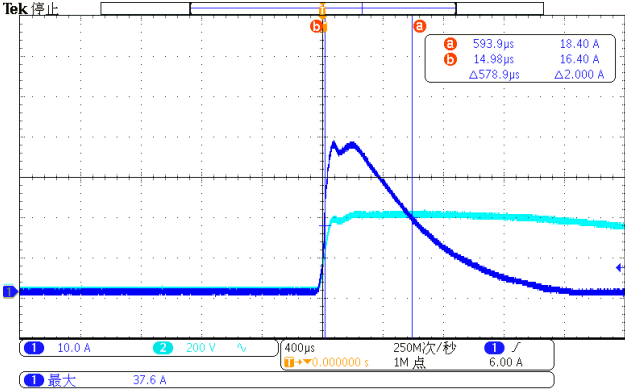
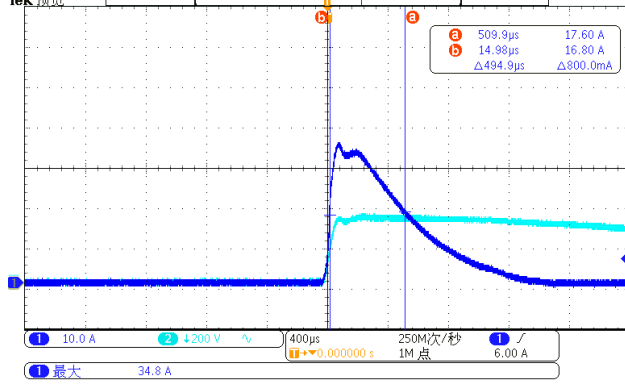
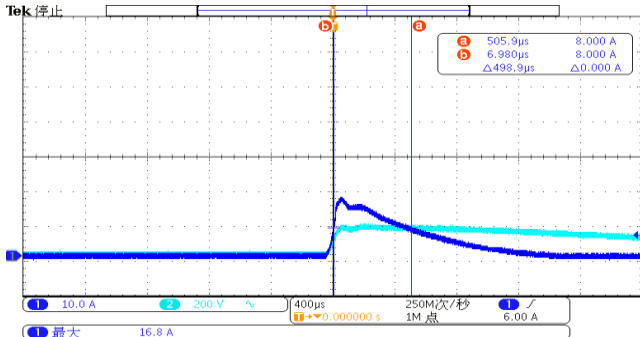
|    |                                                                                                                                                                                                                                                                                                                |                                                                                                       |                                                                                                                                |                                  |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|    | <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage</p>                                                                                                                                                                                                                                               |                                                                                                       |                                                                                                                                |                                  |
| 9  | <p>HOLD UP TIME (Typ.)</p> <p>277VAC/16ms</p> <p>230VAC/16ms</p> <p>115VAC/16ms</p>                                                                                                                                                                                                                            | <p>I/P : 277 VAC</p> <p>I/P : 230 VAC</p> <p>I/P : 115VAC</p> <p>O/P : FULL LOAD</p> <p>Ta : 25°C</p> | <p>277VAC/36.53ms</p> <p>230VAC/34ms</p> <p>115VAC/34.76ms</p>                                                                 |                                  |
|    | <div> <p>INPUT=230VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p> </div> <div> <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p> </div> <div> <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p> </div> |                                                                                                       |                                                                                                                                |                                  |
| 10 | <p>DYNAMIC LOAD</p>                                                                                                                                                                                                                                                                                            | <p>V1: 4800mVp-p</p>                                                                                  | <p>I/P: 230VAC</p> <p>O/P:</p> <p>(1)FULL /50% LOAD 50%DUTY / 120HZ</p> <p>(2)FULL /50% LOAD 50%DUTY / 1KHZ</p> <p>Ta:25°C</p> | <p>1140mVp-p</p> <p>944mVp-p</p> |



## INPUT FUNCTION TEST

| NO | TEST ITEM             | SPECIFICATION                               | TEST CONDITION                                                                                                                                                      | RESULT                                                                                                                           |
|----|-----------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1  | INPUT VOLTAGE RANGE   | 85VAC~305VAC<br>120VDC~ 431VDC              | (1) I/P:TESTING<br>O/P:FULL LOAD<br>(2) I/P:DC TESTING(L:+ N:-)<br>O/P: FULL / 50% LOAD<br>(3) I/P:DC TESTING(L:- N:+)<br>O/P: FULL / 50% LOAD<br>Ta:25°C           | (1) 78V~ 308 V<br>(2) 117Vdc~434Vdc/FULL LOAD<br>117Vdc~434Vdc/50% LOAD<br>(3) 117Vdc~434Vdc/FULL LOAD<br>117Vdc~434Vdc/50% LOAD |
|    |                       |                                             | I/P:<br>LOW-LINE-3V=82 V<br>HIGH-LINE+10V=315 V<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                                                                                                                          |
| 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/0.45A<br>230V/0.52A<br>115V/1.1A       | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                                                                     | I =0.44A/ 277VAC<br>I =0.49A/ 230VAC<br>I =0.97A/ 115VAC                                                                         |
| 4  | LEAKAGE CURRENT       | Earth leakage current<br><350μA(rms)@277Vac | I/P : 277 VAC<br>O/P : Min LOAD<br>Ta : 25°C                                                                                                                        | L-FG : 225μA<br>N-FG : 223μA                                                                                                     |
|    |                       | Touch current<br><100μA(rms)@277Vac         | I/P : 277 VAC<br>O/P : Min LOAD<br>Ta : 25°C                                                                                                                        | L-V+ : 46 μA<br>L-V- : 47 μA<br>N-V+ : 46 μA<br>N-V- : 47 μA                                                                     |

| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | POWER FACTOR (Typ.)             | 0.9/277VAC<br>0.93/230VAC<br>0.98/115VAC                                                                                        | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115VAC<br>O/P : FULL LOAD<br>Ta : 25°C     | PF=0.978/277VAC<br>PF=0.997/230VAC<br>PF=0.998/115VAC                                                                                        |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------|--------|--------|--------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|------|------|------|------|
| <p>P.F vs LOAD</p>  <table><caption>Power Factor (PF) vs Load Data (Typical)</caption><thead><tr><th>LOAD</th><th>115VAC</th><th>230VAC</th><th>277VAC</th></tr></thead><tbody><tr><td>10%</td><td>0.97</td><td>0.55</td><td>0.35</td></tr><tr><td>20%</td><td>0.99</td><td>0.85</td><td>0.58</td></tr><tr><td>30%</td><td>0.99</td><td>0.95</td><td>0.78</td></tr><tr><td>40%</td><td>0.99</td><td>0.98</td><td>0.88</td></tr><tr><td>50%</td><td>0.99</td><td>0.99</td><td>0.92</td></tr><tr><td>60%</td><td>0.99</td><td>0.99</td><td>0.95</td></tr><tr><td>70%</td><td>0.99</td><td>0.99</td><td>0.97</td></tr><tr><td>80%</td><td>0.99</td><td>0.99</td><td>0.98</td></tr><tr><td>90%</td><td>0.99</td><td>0.99</td><td>0.98</td></tr><tr><td>100%</td><td>0.99</td><td>0.99</td><td>0.98</td></tr></tbody></table> |                                 |                                                                                                                                 |                                                                                    |                                                                                                                                              | LOAD | 115VAC | 230VAC | 277VAC | 10% | 0.97 | 0.55 | 0.35 | 20% | 0.99 | 0.85 | 0.58 | 30% | 0.99 | 0.95 | 0.78 | 40% | 0.99 | 0.98 | 0.88 | 50% | 0.99 | 0.99 | 0.92 | 60% | 0.99 | 0.99 | 0.95 | 70% | 0.99 | 0.99 | 0.97 | 80% | 0.99 | 0.99 | 0.98 | 90% | 0.99 | 0.99 | 0.98 | 100% | 0.99 | 0.99 | 0.98 |
| LOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 115VAC                          | 230VAC                                                                                                                          | 277VAC                                                                             |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.97                            | 0.55                                                                                                                            | 0.35                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 20%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.85                                                                                                                            | 0.58                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 30%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.95                                                                                                                            | 0.78                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.98                                                                                                                            | 0.88                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.99                                                                                                                            | 0.92                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 60%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.99                                                                                                                            | 0.95                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 70%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.99                                                                                                                            | 0.97                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 80%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.99                                                                                                                            | 0.98                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.99                            | 0.99                                                                                                                            | 0.98                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.99                            | 0.99                                                                                                                            | 0.98                                                                               |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | EFFICIENCY(Typ.)                | 92%                                                                                                                             | I/P:230 VAC<br>O/P:FULL LOAD<br>Ta:25°C                                            | 92.83%                                                                                                                                       |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| <p>EFFICIENCY vs LOAD</p>  <table><caption>Efficiency (%) vs Load Data (Typical)</caption><thead><tr><th>LOAD</th><th>115VAC</th><th>230VAC</th><th>277VAC</th></tr></thead><tbody><tr><td>10%</td><td>83</td><td>82</td><td>83</td></tr><tr><td>20%</td><td>88</td><td>88</td><td>89</td></tr><tr><td>30%</td><td>90</td><td>91</td><td>91</td></tr><tr><td>40%</td><td>90</td><td>92</td><td>92</td></tr><tr><td>50%</td><td>90</td><td>92</td><td>93</td></tr><tr><td>60%</td><td>90</td><td>92</td><td>93</td></tr><tr><td>70%</td><td>90</td><td>92</td><td>93</td></tr><tr><td>80%</td><td>90</td><td>92</td><td>93</td></tr><tr><td>90%</td><td>90</td><td>92</td><td>93</td></tr><tr><td>100%</td><td>89</td><td>92</td><td>93</td></tr></tbody></table>                                                        |                                 |                                                                                                                                 |                                                                                    |                                                                                                                                              | LOAD | 115VAC | 230VAC | 277VAC | 10% | 83   | 82   | 83   | 20% | 88   | 88   | 89   | 30% | 90   | 91   | 91   | 40% | 90   | 92   | 92   | 50% | 90   | 92   | 93   | 60% | 90   | 92   | 93   | 70% | 90   | 92   | 93   | 80% | 90   | 92   | 93   | 90% | 90   | 92   | 93   | 100% | 89   | 92   | 93   |
| LOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 115VAC                          | 230VAC                                                                                                                          | 277VAC                                                                             |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 10%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 83                              | 82                                                                                                                              | 83                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 20%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 88                              | 88                                                                                                                              | 89                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 30%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 91                                                                                                                              | 91                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 40%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 92                                                                                                                              | 92                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 50%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 92                                                                                                                              | 93                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 60%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 92                                                                                                                              | 93                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 70%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 92                                                                                                                              | 93                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 80%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 92                                                                                                                              | 93                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 90                              | 92                                                                                                                              | 93                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 89                              | 92                                                                                                                              | 93                                                                                 |                                                                                                                                              |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | NO LOAD POWER CONSUMPTION(Typ.) | Remote Power ON :<br>2W/277VAC<br>2W/230VAC<br>2W/115VAC<br><br>Remote Power OFF :<br>0.5W/277VAC<br>0.5W/230VAC<br>0.3W/115VAC | I/P : 277 VAC<br>I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : RC ON/RC OFF<br>Ta : 25°C | Remote Power ON :<br>0.75W/277VAC<br>0.73W/230VAC<br>0.86W/115VAC<br><br>Remote Power OFF :<br>0.39W/277VAC<br>0.34W/230VAC<br>0.126W/115VAC |      |        |        |        |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |      |      |      |      |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                                                |                                                                                |                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | INRUSH CURRENT(Typ.) | 277V/45A<br>230V/35A<br>115V/20A<br>COLD START | I/P : 277 VAC<br>I/P : 230VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | I =37.6A/ 277VAC<br>T50= 578.9us/277V<br><br>I =34.8A/ 230VAC<br>T50= 494.9us/230V<br><br>I =16.8A/ 115VAC<br>T50=499.9us/115V |
| <div> <p>INPUT=277VAC/50HZ @ FULL LOAD<br/>CH2 : AC Input Voltage CH1 : Input current</p>  <p>Tek 停止</p> <p>10.0 A 200 V 400us 250M次/秒 1M点 6.00 A</p> <p>最大 37.6 A</p> <p>593.9us 18.40 A<br/>14.98us 16.40 A<br/>Δ578.9us Δ2.000 A</p> </div> <div> <p>INPUT=230VAC/50HZ @ FULL LOAD<br/>CH2 : AC Input Voltage CH1 : Input current</p>  <p>Tek 预览</p> <p>10.0 A 200 V 400us 250M次/秒 1M点 6.00 A</p> <p>最大 34.8 A</p> <p>509.9us 17.60 A<br/>14.98us 16.80 A<br/>Δ494.9us Δ800.0mA</p> </div> <div> <p>INPUT=115VAC/50HZ @ FULL LOAD<br/>CH2 : AC Input Voltage CH1 : Input current</p>  <p>Tek 停止</p> <p>10.0 A 200 V 400us 250M次/秒 1M点 6.00 A</p> <p>最大 16.8 A</p> <p>505.9us 8.000 A<br/>6.980us 8.000 A<br/>Δ498.9us Δ0.000 A</p> </div> |                      |                                                |                                                                                |                                                                                                                                |

## PROTECTION FUNCTION TEST

| NO | TEST ITEM                   | SPECIFICATION                          | TEST CONDITION                                                      | RESULT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|-----------------------------|----------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | OVER LOAD PROTECTION        | 105 ~ 200%                             | I/P: 305VAC<br>I/P: 230VAC<br>I/P: 85VAC<br>O/P:TESTING<br>Ta:25°C  | 135.23 % / 305VAC<br>135.23 % / 230VAC<br>135.23 % / 85VAC<br>Protection type :<br>1、Normally works within 105 ~ 200% rated output power for more than 5 seconds and then constant current limiting without shutdown(Vout>30%), recovers automatically after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover<br>2、>200% rated power, constant current limiting (Vout>30%)with auto-recovery after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover |
| 2  | OVER VOLTAGE PROTECTION     | 58V~70V                                | I/P: 305VAC<br>I/P: 230VAC<br>I/P: 85VAC<br>O/P:MIN LOAD<br>Ta:25°C | 64.7 V / 305VAC /<br>64.7 V/ 230VAC / 76<br>64.7 V/ 85VAC<br>PROTECTION TYPE : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3  | OVER TEMPERATURE PROTECTION | NO DAMAGE                              | I/P: 305VAC<br>I/P: 85VAC<br>O/P:FULL LOAD                          | O.T.P Active<br>Protection type : Shut down o/p voltage, re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4  | SHORT PROTECTION            | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE | I/P: 305VAC<br>I/P: 85VAC<br>O/P: FULL LOAD<br>Ta:25°C              | NO DAMAGE<br>PROTECTION TYPE :<br>Constant current limiting for more than 5 seconds (Vout<30%) and then shut down a/p voltage, AC re-power on to recover                                                                                                                                                                                                                                                                                                                                                                                    |

## CONTROL FUNCTION TEST

| NO               | TEST ITEM                              | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | TEST CONDITION | RESULT                                 |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
|------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------|----------|-----------------------|-----------|------------------------------------|----------------|---------------------|----------------|----|------------------|-----|--|--|
| 1                | REMOTE ON/OFF CONTROL                  | <div>2.Remote Control</div> <div>The PSU can be turned ON/OFF by using the "Remote Control" function with external switch and auxiliary power</div> <table><tr><td>PSU Vo Status</td><td>Between RC-(pin1) and RC+(pin2) on CN1</td></tr><tr><td>POWER ON</td><td>Keep 0~0.8Vdc or open</td></tr><tr><td>POWER OFF</td><td>Keep 3.3~10Vdc by external voltage</td></tr></table> <div></div> <div>I/P: 230 VAC<br/>O/P:FULL LOAD<br/>Ta:25°C<br/>Test Result :</div> <table><tr><td>Between ON/OFF</td><td>Power Output Status</td></tr><tr><td>SW ON (0~0.8V)</td><td>ON</td></tr><tr><td>SW OFF (3.3~10V)</td><td>OFF</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | PSU Vo Status  | Between RC-(pin1) and RC+(pin2) on CN1 | POWER ON | Keep 0~0.8Vdc or open | POWER OFF | Keep 3.3~10Vdc by external voltage | Between ON/OFF | Power Output Status | SW ON (0~0.8V) | ON | SW OFF (3.3~10V) | OFF |  |  |
| PSU Vo Status    | Between RC-(pin1) and RC+(pin2) on CN1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
| POWER ON         | Keep 0~0.8Vdc or open                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
| POWER OFF        | Keep 3.3~10Vdc by external voltage     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
| Between ON/OFF   | Power Output Status                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
| SW ON (0~0.8V)   | ON                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
| SW OFF (3.3~10V) | OFF                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |
| 2                | PEAK POWER                             | <div>1. Peak Power</div> <div><math display="block">P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leq P_{rated}</math><math display="block">Duty = \frac{t}{T} \times 100\% \leq 35\%</math><math display="block">t \leq 5 \text{ sec}</math></div> <div></div> <div><p><math>P_{av}</math>: Average output power (W)<br/><math>P_{pk}</math>: Peak output power (W)<br/><math>P_{npk}</math>: Non-peak output power (W)<br/><math>P_{rated}</math>: Rated output power (W)<br/><math>t</math>: Peak power width (sec)<br/><math>T</math>: Period (sec)</p><div><div>----- 100Vac</div><div>———— 220Vac</div></div><div></div><div><div>For example (24V model) :</div><div>Vin = 200Vac    Duty_max = 5%</div><div>Pav = Prated = 100W</div><div>Ppk = 200W</div><div>t ≤ 5 sec</div><div><math>T \geq \frac{5 \text{ sec}}{5\%} \geq 100 \text{ sec}</math></div><div><math display="block">P_{npk} \leq \frac{TP_{av} - tP_{pk}}{T-t}</math></div><div>Pnpk ≤ 94.7W</div><div>Note:When the output voltage is adjusted to the upper limit, the peak power is 150% rated power</div></div><div>I/P: 100/305VAC<br/>O/P:PEAK LOAD (1Hour NO DAMAGE)<br/>Ta:25°C<br/>Test Result: PASS</div></div> |                |                                        |          |                       |           |                                    |                |                     |                |    |                  |     |  |  |

## COMPONENT STRESS TEST

| NO | TEST ITEM                                                 | SPECIFICATION          | TEST CONDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | RESULT                                                                                                                                                                                       |
|----|-----------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | PWM Transistor<br>( D to S) or (C to E)<br>Peak Voltage   | Q6 Rated<br>650 V/11 A | 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><br>I/P:Low-Line -3V = 82V<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>Ta:25°C | VDS:<br>(1) 452V<br>(2) 444V<br>(3) 440V<br><br>(4) 440V<br>(5) 436V<br>(6) 440V<br>(7) 452V<br><br>VDS:<br>(1) 444V<br>(2) 456V<br>(3) 444V<br>(4) 444V<br>(5) 448V<br>(6) 448V<br>(7) 456V |
| 2  | P.F.C Transistor<br>( D to S) or (C to E)<br>Peak Voltage | Q1 Rated<br>650 V/15A  | I/P:High-Line +3V =308V<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/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.                                                                                                                                                                                                                                                                                                                                               | VDS:<br>(1) 472V<br>(2) 459V<br>(3) 447V<br><br>(4) 452V<br>(5) 456V<br>(6) 459V<br>(7) 459V                                                                                                 |

|   |                    |                        |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                               |
|---|--------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|   |                    |                        | I/P:Low-Line -3V =82V<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/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>Ta:25°C                                                                | VDS:<br>(1) 500V<br>(2) 472V<br>(3) 492V<br>(4) 468V<br>(5) 460V<br>(6) 492V<br>(7) 484V                      |
| 3 | P.F.C DIODE        | D8 Rated<br>4 A/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>I/P:Low-Line -3V = 82V<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>Ta:25°C | (1) 434V<br>(2) 430V<br>(3) 430V<br>(4) 438V<br>(1) 442V<br>(2) 434V<br>(3) 442V<br>(4) 438V                  |
| 4 | Diode Peak Voltage | D101 Rated<br>20A/200V | 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>Ta:25°C                                              | D101:<br>VDS:<br>(1) 131V<br>(2) 10V<br>(3) 130V<br>(4) 131V<br>(5) 130V<br>(6) 130V<br>(7) 11.6V<br>(8) 127V |

|   |                         |                                                           |                                                                                                                                                              |                                                                     |
|---|-------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 5 | Input Voltage           | Capacitor<br>C5 Rated:<br>68μ/ 450V<br>Surge voltage:500V | 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>Ta:25°C | (1)440V<br>(2)440V<br>(3)456V<br>(4) 440V                           |
| 6 | Control IC Voltage Test | PWM IC U2 Rated<br>-0.4 V~ 30 V                           | AC ON/OFF<br>I/P:High-Line +3V =308 V<br>O/P:(1)FULL LOAD<br>(2) Output Short<br>(3)O.L.P<br>(4)O.V.P.<br>(5)NO LOAD VRmin(LOW LINE)<br>Ta:25°C              | U2<br>(1) 19.4V<br>(2) 19.4V<br>(3) 19.4V<br>(4) 19.6V<br>(5) 13.2V |

## ■ SAFETY& E.M.C. TEST

### SAFETY TEST

| NO | TEST ITEM            | SPECIFICATION                                                             | TEST CONDITION                                                                     | RESULT                                                                 |
|----|----------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 4.2 K VAC/min<br>I/P-FG : 2.1 K VAC/min<br>O/P-FG: 1.5 KVAC/min  | I/P-O/P: 4.62 KVAC/min<br>I/P-FG: 2.52 KVAC/min<br>O/P-FG: 1.8 KVAC/min<br>Ta:25°C | I/P-O/P: 1.927 mA<br>I/P-FG: 1.953 mA<br>O/P-FG: 1.568 mA              |
| 2  | ISOLATION RESISTANCE | I/P-O/P: 500 VDC>100MΩ<br>I/P-FG: 500 VDC>100MΩ<br>O/P-FG: 500 VDC >100MΩ | I/P-O/P: 500 VDC<br>I/P-FG: 500 VDC<br>O/P-FG: 500 VDC<br>Ta:25°C                  | I/P-O/P: >9999 MΩ<br>I/P-FG: >9999 MΩ<br>O/P-FG: >9999 MΩ<br>NO DAMAGE |
| 3  | GROUNDING CONTINUITY | FG(PE) TO CHASSIS<br>OR TRACE < 100 mΩ                                    | 40A / 2min<br>Ta:25°C                                                              | 10 mΩ                                                                  |

### E.M.C TEST

| NO | TEST ITEM                                                                                                                         | SPECIFICATION                                                                      | TEST CONDITION                                           | RESULT                        |
|----|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------|
| 1  | HARMONIC                                                                                                                          | 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),CNS 15936<br>EN/EN55014-1(CISPR14-1)<br>EN/EN55011(CISPR11) | 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),CNS 15936<br>EN/EN55014-1(CISPR14-1)<br>EN/EN55011(CISPR11) | I/P : 230 VAC (50HZ)<br>O/P : FULL LOAD<br>Ta : 25°C     | PASS<br>Test by certified Lab |
| 4  | E.S.D                                                                                                                             | EN61000-4-2<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                                                                                                                             | EN61000-4-4<br>INPUT : 2KV                                                         | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |
| 6  | SURGE                                                                                                                             | IEC61000-4-5<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                                             | <div>MODEL : NSP-100-48</div> <div>1. ROOM AMBIENT BURN-IN : 2 HRS</div> <div>I/P : 230VAC O/P : FULL LOAD Ta=33.2 °C</div> <div>2. HIGH AMBIENT BURN-IN : 2 HRS</div> <div>I/P : 230VAC O/P : FULL LOAD Ta=63.8 °C</div> <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=33.2 °C</th><th>HIGH AMBIENT Ta=63.8 °C</th></tr><tr><td>1</td><td>L1</td><td>60.4°C</td><td>86.8°C</td></tr><tr><td>2</td><td>C10</td><td>57.7°C</td><td>85.7°C</td></tr><tr><td>3</td><td>Q1</td><td>62.0°C</td><td>90.7°C</td></tr><tr><td>4</td><td>C5</td><td>58.4°C</td><td>86.2°C</td></tr><tr><td>5</td><td>C14</td><td>61.6°C</td><td>90.6°C</td></tr><tr><td>6</td><td>U2</td><td>73.4°C</td><td>101.4°C</td></tr><tr><td>7</td><td>U4</td><td>63.8°C</td><td>92.2°C</td></tr><tr><td>8</td><td>BD1</td><td>61.7°C</td><td>88.6°C</td></tr><tr><td>9</td><td>Q6</td><td>65.3°C</td><td>93.8°C</td></tr><tr><td>10</td><td>T1</td><td>86.5°C</td><td>114.3°C</td></tr><tr><td>11</td><td>C105</td><td>60.3°C</td><td>88.9°C</td></tr><tr><td>12</td><td>U121</td><td>60.3°C</td><td>89.5°C</td></tr><tr><td>13</td><td>D101</td><td>63.0°C</td><td>91.1°C</td></tr><tr><td>14</td><td>U101</td><td>63.9°C</td><td>92.3°C</td></tr><tr><td>15</td><td>RTH3</td><td>62.6°C</td><td>92.6°C</td></tr><tr><td>16</td><td>LF1</td><td>57.5°C</td><td>85.6°C</td></tr><tr><td>17</td><td>C200</td><td>67.0°C</td><td>95.7°C</td></tr><tr><td>18</td><td>C36</td><td>66.6°C</td><td>94.9°C</td></tr><tr><td>19</td><td>TC</td><td>52.6°C</td><td>81.5°C</td></tr></table> |                                                                    |                      | NO | Position | ROOM AMBIENT Ta=33.2 °C | HIGH AMBIENT Ta=63.8 °C | 1 | L1 | 60.4°C | 86.8°C | 2 | C10 | 57.7°C | 85.7°C | 3 | Q1 | 62.0°C | 90.7°C | 4 | C5 | 58.4°C | 86.2°C | 5 | C14 | 61.6°C | 90.6°C | 6 | U2 | 73.4°C | 101.4°C | 7 | U4 | 63.8°C | 92.2°C | 8 | BD1 | 61.7°C | 88.6°C | 9 | Q6 | 65.3°C | 93.8°C | 10 | T1 | 86.5°C | 114.3°C | 11 | C105 | 60.3°C | 88.9°C | 12 | U121 | 60.3°C | 89.5°C | 13 | D101 | 63.0°C | 91.1°C | 14 | U101 | 63.9°C | 92.3°C | 15 | RTH3 | 62.6°C | 92.6°C | 16 | LF1 | 57.5°C | 85.6°C | 17 | C200 | 67.0°C | 95.7°C | 18 | C36 | 66.6°C | 94.9°C | 19 | TC | 52.6°C | 81.5°C |
| NO | Position                                                          | ROOM AMBIENT Ta=33.2 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HIGH AMBIENT Ta=63.8 °C                                            |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 1  | L1                                                                | 60.4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 86.8°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 2  | C10                                                               | 57.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 85.7°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 3  | Q1                                                                | 62.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 90.7°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 4  | C5                                                                | 58.4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 86.2°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 5  | C14                                                               | 61.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 90.6°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 6  | U2                                                                | 73.4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 101.4°C                                                            |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 7  | U4                                                                | 63.8°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 92.2°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 8  | BD1                                                               | 61.7°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 88.6°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 9  | Q6                                                                | 65.3°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 93.8°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 10 | T1                                                                | 86.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 114.3°C                                                            |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 11 | C105                                                              | 60.3°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 88.9°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 12 | U121                                                              | 60.3°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 89.5°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 13 | D101                                                              | 63.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 91.1°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 14 | U101                                                              | 63.9°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 92.3°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 15 | RTH3                                                              | 62.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 92.6°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 16 | LF1                                                               | 57.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 85.6°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 17 | C200                                                              | 67.0°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 95.7°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 18 | C36                                                               | 66.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 94.9°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 19 | TC                                                                | 52.6°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 81.5°C                                                             |                      |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 2  | OVER LOAD BURN-IN TEST                                            | NO DAMAGE<br>1 HOUR ( MIN )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | I/P : 230 VAC<br>O/P : 129 % LOAD<br>Ta : 25°C                     | TEST : OK            |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 3  | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER 2 HOUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | I/P : 85VAC/305VAC<br>O/P : 80/100 % LOAD<br>Ta=-35/-45 °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 50 °C/95 %R.H<br>NO DAMAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I/P : 315 VAC<br>O/P : FULL LOAD<br>Ta= 50 °C<br>HUMIDITY= 95 %R.H | TEST : OK            |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |
| 5  | TEMPERATURE<br>COEFFICIENT                                        | ± 0.05 %/°C(0~60°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | I/P : 230 VAC<br>O/P : FULL LOAD                                   | ± 0.007 %/°C(0~60°C) |    |          |                         |                         |   |    |        |        |   |     |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |         |   |    |        |        |   |     |        |        |   |    |        |        |    |    |        |         |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |     |        |        |    |      |        |        |    |     |        |        |    |    |        |        |

|    |                          |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                               |
|----|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6  | STORAGE TEMPERATURE 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       | -40~60°C                                                                                                                                                                                                                                                              | 1. Thermal shock Temperature : -45°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, 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 LIFE CYCLE     | SUPPOSE C105 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) 573989HRS<br>(2) 54753HRS<br>(3) 80916HRS<br>(4) 114472HRS                                                                                                                                                                                                                                                |
| 10 | MTBF                     | Conducted by Parts Stress Analysis Prediction<br>2163.5K hrs min. Telcordia SR-332 (Bellcore) ; 250.4K 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        | WUWQIN/ZHOUBIAO | WENF   | WUWQ     |

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