



Test Report: LPF-90-48

90W Single Output Switching Power Supply

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection 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 | VERDICT |
|----|--------------------------|--|---|--|---------|
| 1 | RIPPLE & NOISE | V1 : 200 mVp-p (Max) | I/P : 230VAC O/P : FULL LOAD Ta : 25°C | V1 : 35 mVp-p (Max) | P |
| 2 | CONSTANT CURRENT REGION | V1=28.8V~48V | I/P : 230VAC O/P : CV MODE Ta : 25°C | O/P= 47V/ 1.946 A O/P= 28.8V/ 1.951 A | P |
| 3 | OUTPUT VOLTAGE TOLERANCE | V1 : 4 %~ -4 % (Max) | I/P : 100 VAC / 305 VAC O/P : FULL/ MIN LOAD Ta : 25°C | V1 : -0.07 %~ 0.02 % | P |
| 4 | LINE REGULATION | V1 : 0.5 %~ -0.5 % (Max) | I/P : 100 VAC ~ 305 VAC O/P : FULL LOAD Ta : 25°C | V1 : 0 %~ 0 % | P |
| 5 | LOAD REGULATION | V1 : 0.5 %~ -0.5 % (Max) | I/P : 230 VAC O/P : FULL ~MIN LOAD Ta : 25°C | V1 : -0.01 %~ 0.07 % | P |
| 6 | SET UP TIME | 230VAC : 500 ms (Max) 115VAC : 1200 ms(Max) | I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C | 230VAC/ 267 ms 115VAC/ 294 ms | P |
| 7 | RISE TIME | 230VAC : 200 ms (Max) 115VAC : 200 ms (Max) | I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C | 230VAC/ 23.728 ms 115VAC/ 22.044 ms | P |
| 8 | HOLD UP TIME | 230VAC : 16 ms (TYP) 115VAC : 16 ms (TYP) | I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C | 230VAC/ 77.315 ms 115VAC/ 33.530 ms | P |
| 9 | OVER/UNDERSHOOT TEST | < ±5% | I/P : 230 VAC O/P : FULL LOAD Ta : 25°C | TEST : <5 % | P |
| 10 | DYNAMIC LOAD | V1 : 4000 mVp-p | I/P : 230 VAC (1).O/P : FULL /Min LOAD 90%DUTY/ 1KHZ (2).O/P : FULL /Min LOAD 50%DUTY/ 120HZ Ta : 25°C | (1)339 mVp-p (2)937 mVp-p | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------|---|---|---|---------|
| 1 | INPUT VOLTAGE RANGE | 100VAC~305 VAC | I/P : TESTING O/P : FULL LOAD Ta : 25°C I/P : LOW-LINE-3V=97 V HIGH-LINE=305 V O/P : FULL/MIN LOAD ON : 30 Sec . OFF : 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE) | 77.72V~305V TEST : OK | P |
| 2 | INPUT FREQUENCY RANGE | 47HZ ~63 HZ NO DAMAGE OSC | I/P : 100 VAC ~ 305 VAC O/P : FULL~MIN LOAD Ta : 25°C | TEST : OK | P |
| 3 | POWER FACTOR | 0.96 / 230 VAC(TYP) 0.97 / 115 VAC(TYP) 0.95 / 277 VAC(TYP) | I/P : 230 VAC I/P : 115 VAC I/P : 277 VAC O/P : FULL LOAD Ta : 25°C | PF= 0.9916 / 100% PF= 0.9978 / 100% PF= 0.9852 / 100% | P |
| 4 | EFFICIENCY | 91% (TYP) | I/P : 230 VAC O/P : FULL LOAD Ta : 25°C | 91.472 % | P |
| 5 | INPUT CURRENT | 230V/ 0.5 A (TYP) 115V/ 0.95 A (TYP) 277V/ 0.4 A (TYP) | I/P : 230 VAC I/P : 115 VAC I/P : 277 VAC O/P : FULL LOAD Ta : 25°C | I = 0.4277 A/ 230 VAC I = 0.8514 A/ 115 VAC I = 0.3595 A/ 277 VAC | P |
| 6 | INRUSH CURRENT | 230V/ 55 A (TYP) COLD START | I/P : 230 VAC O/P : FULL LOAD Ta : 25°C | I = 59.242 A/ 230 VAC | P |
| 7 | LEAKAGE CURRENT | < 0.75 mA / 277 VAC | I/P : 277 VAC O/P : Min LOAD Ta : 25°C | L-CASE : 0.01 mA N-CASE : 0.01 mA | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------------|---|---|---|---------|
| 1 | OVER LOAD PROTECTION | 95 % ~ 108 % | I/P : 230 VAC I/P : 115 VAC O/P : TESTING Ta : 25°C | 103.61%/ 230 VAC 103.77%/ 115 VAC Constant Current Limiting ,recovers automatically after fault condition is removed. | P |
| 2 | OVER VOLTAGE PROTECTION | CH1 : 54 V ~ 60 V | I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C | 58V/ 230 VAC 58V/ 115 VAC Shut down o/p voltage, re-power on to recover | P |
| 3 | OVER TEMPERATURE PROTECTION | SPEC : RTH2 : 90± 10°C O.T.P. NO DAMAGE | I/P : 230 VAC O/P : FULL LOAD | O.T.P. Active Shut down o/p voltage, re-power on to recover | P |
| 4 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P : 305 VAC O/P : FULL LOAD Ta : 25°C | NO DAMAGE Hiccup mode, recovers automatically after fault condition is removed. | P |

COMPONENT STRESS TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|--|-------------------------------------|--|--------------------------------------|---------|
| 1 | Power Transistor (D to S) or (C to E) Peak Voltage | Q 2 Rated : TK10A60D 10A/600V | I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C | (1) 432 V (2) 432 V (3) 436 V | P |
| 2 | Diode Peak Voltage | Q101 Rated : STTH2003CT 20A/300V | I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on (2)Output Short (3)Full load continue Ta : 25°C | (1) 196 V (2) 150 V (3) 196 V | P |
| 3 | Input Capacitor Voltage | C5 Rated : 82u/450V 105°C | I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta : 25°C | (1) 444 V (2) 440 V (3) 440 V | P |
| 4 | Control IC Voltage Test | U 1 Rated : TEA1752T 17V~30V | I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta : 25°C | (1) 22 V (2) 21.4 V (3) 21.4 V | P |
| 5 | Power Transistor (D to S) or (C to E) Peak Voltage | Q1 Rated : 2SK3677-01MR 12A/700V | I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C | (1) 624 V (2) 496 V (3) 624 V | P |

SAFETY & E.M.C. TEST
SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------------|-------------------------|---------------------------------------|--------------------------------|---------|
| 1 | WITHSTAND VOLTAGE | I/P-O/P : 3.75 KVAC/min | I/P-O/P : 4 KVAC/min Ta : 25°C | I/P-O/P : 3.87 mA NO DAMAGE | P |
| 2 | ISOLATION RESISTANCE | I/P-O/P : 500VDC>100MΩ | I/P-O/P : 500 VDC Ta : 25°C/70% RH | I/P-O/P : 30 GΩ NO DAMAGE | P |

E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|---|---------------------------------------|---|-------------------------------|---------|
| 1 | HARMONIC | EN61000-3-2 CLASS C | I/P:230VAC/240VAC/220VAC50HZ O/P:100%,75%,60%LOAD CLASS C ≥60% Ta:25°C | PASS | P |
| 2 | CONDUCTION | EN55022 CLASS B | I/P: 230 VAC (50HZ)/115V[60HZ] O/P:FULL/60% LOAD Ta:25°C | PASS Test by certified Lab | P |
| 3 | RADIATION | EN55022 CLASS B | I/P: 230 VAC (50HZ)/115V[60HZ] O/P:FULL LOAD Ta:25°C | PASS Test by certified Lab | P |
| 4 | E.S.D | AIR:8KV / Contact:6KV INDUSTRY | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |
| 5 | E.F.T | EN61000-4-4 INDUSTRY INPUT: 2KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |
| 6 | SURGE | IEC61000-4-5 INDUSTRY L-N :2KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |
| 7 | Test by certified Lab & Test Report Prepare | | | | |

RELIABILITY TEST
ENVIRONMENT TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | TEMPERATURE RISE TEST | MODEL : LPF-90-24 1. ROOM AMBIENT BURN-IN : 1 HRS I/P : 230VAC O/P : 95% LOAD Ta=37.5 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : 95% LOAD Ta=51.6°C | | | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>ROOM AMBIENT Ta=37.5°C</th> <th>HIGH AMBIENT Ta= 51.6°C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF1</td><td>TR-990</td><td>59.5°C</td><td>72.1°C</td></tr> <tr><td>2</td><td>LF2</td><td>TR-910B</td><td>68.9°C</td><td>81.4°C</td></tr> <tr><td>3</td><td>L1</td><td>TR-995</td><td>67.3°C</td><td>79.6°C</td></tr> <tr><td>4</td><td>C11</td><td>564/450V</td><td>70.7°C</td><td>83.1°C</td></tr> <tr><td>5</td><td>D6</td><td>MUR460</td><td>71.7°C</td><td>84.0°C</td></tr> <tr><td>6</td><td>Q2</td><td>TK10A60D</td><td>73.4°C</td><td>86.1°C</td></tr> <tr><td>7</td><td>L3</td><td>TF-2157</td><td>69.1°C</td><td>80.9°C</td></tr> <tr><td>8</td><td>Q1</td><td>2SK3677</td><td>77.2°C</td><td>90.6°C</td></tr> <tr><td>9</td><td>C5</td><td>82u/450V KXG</td><td>72.2°C</td><td>84.4°C</td></tr> <tr><td>10</td><td>D12</td><td>GP20K</td><td>78.1°C</td><td>91.3°C</td></tr> <tr><td>11</td><td>T1</td><td>TF-2161</td><td>79.8°C</td><td>92.4°C</td></tr> <tr><td>12</td><td>U1</td><td>TEA1752T</td><td>70.7°C</td><td>82.9°C</td></tr> <tr><td>13</td><td>C22</td><td>47uF/50V YXM</td><td>70.7°C</td><td>83.1°C</td></tr> <tr><td>14</td><td>C18</td><td>33u/50V YXM</td><td>71.7°C</td><td>82.4°C</td></tr> <tr><td>15</td><td>C152</td><td>47uF/50V YXM</td><td>73.6°C</td><td>86.2°C</td></tr> <tr><td>16</td><td>C153</td><td>47uF/50V YXM</td><td>76.4°C</td><td>94.2°C</td></tr> <tr><td>17</td><td>Q101</td><td>STP40NF12</td><td>78.6°C</td><td>93.1°C</td></tr> <tr><td>18</td><td>C106</td><td>1000u/35V ZLH</td><td>71.1°C</td><td>84.4°C</td></tr> <tr><td>19</td><td>C107</td><td>1000u/35V ZLH</td><td>67.8°C</td><td>81.2°C</td></tr> <tr><td>20</td><td>L100</td><td>TR-884</td><td>65.8°C</td><td>79.3°C</td></tr> <tr><td>21</td><td>U151</td><td>LM224ADT</td><td>65.7°C</td><td>78.7°C</td></tr> <tr><td>22</td><td>RTH2</td><td>100KΩ 3Φ 1%</td><td>68.1°C</td><td>80.6°C</td></tr> </tbody> </table> | NO | Position | | P/N | ROOM AMBIENT Ta=37.5°C | HIGH AMBIENT Ta= 51.6°C | 1 | LF1 | TR-990 | 59.5°C | 72.1°C | 2 | LF2 | TR-910B | 68.9°C | 81.4°C | 3 | L1 | TR-995 | 67.3°C | 79.6°C | 4 | C11 | 564/450V | 70.7°C | 83.1°C | 5 | D6 | MUR460 | 71.7°C | 84.0°C | 6 | Q2 | TK10A60D | 73.4°C | 86.1°C | 7 | L3 | TF-2157 | 69.1°C | 80.9°C | 8 | Q1 | 2SK3677 | 77.2°C | 90.6°C | 9 | C5 | 82u/450V KXG | 72.2°C | 84.4°C | 10 | D12 | GP20K | 78.1°C | 91.3°C | 11 | T1 | TF-2161 | 79.8°C | 92.4°C | 12 | U1 | TEA1752T | 70.7°C | 82.9°C | 13 | C22 | 47uF/50V YXM | 70.7°C | 83.1°C | 14 | C18 | 33u/50V YXM | 71.7°C | 82.4°C | 15 | C152 | 47uF/50V YXM | 73.6°C | 86.2°C | 16 | C153 | 47uF/50V YXM | 76.4°C | 94.2°C | 17 | Q101 | STP40NF12 | 78.6°C | 93.1°C | 18 | C106 | 1000u/35V ZLH | 71.1°C | 84.4°C | 19 | C107 | 1000u/35V ZLH | 67.8°C | 81.2°C | 20 | L100 | TR-884 | 65.8°C | 79.3°C | 21 | U151 | LM224ADT | 65.7°C | 78.7°C | 22 | RTH2 | 100KΩ 3Φ 1% | 68.1°C | 80.6°C | | |
| NO | Position | P/N | ROOM AMBIENT Ta=37.5°C | HIGH AMBIENT Ta= 51.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | LF1 | TR-990 | 59.5°C | 72.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | LF2 | TR-910B | 68.9°C | 81.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | L1 | TR-995 | 67.3°C | 79.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | C11 | 564/450V | 70.7°C | 83.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | D6 | MUR460 | 71.7°C | 84.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Q2 | TK10A60D | 73.4°C | 86.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | L3 | TF-2157 | 69.1°C | 80.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Q1 | 2SK3677 | 77.2°C | 90.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | C5 | 82u/450V KXG | 72.2°C | 84.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | D12 | GP20K | 78.1°C | 91.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | T1 | TF-2161 | 79.8°C | 92.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | U1 | TEA1752T | 70.7°C | 82.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | C22 | 47uF/50V YXM | 70.7°C | 83.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | C18 | 33u/50V YXM | 71.7°C | 82.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | C152 | 47uF/50V YXM | 73.6°C | 86.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | C153 | 47uF/50V YXM | 76.4°C | 94.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Q101 | STP40NF12 | 78.6°C | 93.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | C106 | 1000u/35V ZLH | 71.1°C | 84.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | C107 | 1000u/35V ZLH | 67.8°C | 81.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | L100 | TR-884 | 65.8°C | 79.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | U151 | LM224ADT | 65.7°C | 78.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | RTH2 | 100KΩ 3Φ 1% | 68.1°C | 80.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P : 305VAC/100VAC O/P : 95 % LOAD Ta= -40 °C / -25°C | TEST : OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C NO DAMAGE | I/P : 305 VAC O/P : 95% LOAD Ta= 50 °C HUMIDITY= 95 %R.H | TEST : OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | TEMPERATURE COEFFICIENT | ± 0.03 %(0-50°C) | I/P : 230 VAC O/P : 95% LOAD | ± 0%(0-50°C) | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | STORAGE TEMPERATURE TEST | 1. Thermal shock Temperature : -45°C~ +90°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 5 CYCLE 5. Input/Output condition : STATIC | | OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 6 | THERMAL SHOCK TEST | 1. Thermal shock Temperature : -45°C ~ +55°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : 230VAC/Full Load AC ON/OFF TEST turn on 58sec ; turn off 2sec | OK | P |
| 7 | VIBRATION TEST | 1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 5G (5) Test Time : 72min in each axis (X.Y.Z) (6) Ta : 25°C | TEST : OK | P |
| 8 | CAPACITOR LIFE CYCLE | SUPPOSE C106 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta=25 °C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta=50 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 50 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 50 °C LIFE TIME | (1) 289437 HRS (2) 54102 HRS (3) 74884 HRS (4) 108205 HRS | P |
| 9 | MTBF | Conducted by Parts Stress Analysis Prediction 3292.9K hrs min. Telcordia SR-332 (Bellcore) ; 301.7K hrs min. MIL-HDBK-217F (25°C) | | P |
| 10 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure(Expected Life) : 50,000 hours @ Tcase 70°C | | P |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|-----------|----------------|-------------|------------|---------------|
| 2011/5/13 | RD SAMPLE | PASS | SANFORD SU | VINCENT TSENG |
| 2011/5/25 | PRODUCT SAMPLE | PASS | SANFORD SU | VINCENT TSENG |

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