



Test Report: HLG-150-30

150W Single Output Switching Power Supply

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Other Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

■ RELIABILITY 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: 230 VAC O/P:FULL LOAD Ta:25°C | V1: 34 mVp-p (Max) | P |
| 2 | OUTPUT VOLTAGE ADJUST RANGE | CH1: 27V~33 V | I/P: 230 VAC I/P:115VAC O/P:MIN LOAD Ta:25°C | 26.38 V~33.76 V /230VAC 26.38 V~33.76 V/115VAC | P |
| 3 | CURRENT ADJ RANGE | 3A~5A | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | 1.82 A~7.25 A | P |
| 4 | CONSTANT CURRENT REGION | 15V~29V | I/P: 230 VAC O/P:CV MODE Ta:25°C | O/P=15V: 5.1 A O/P=29V: 5.1 A | P |
| 5 | OUTPUT VOLTAGE TOLERANCE | V1: -1% ~ 1% (Max) | I/P: 100 VAC /264VAC O/P:FULL/ 0% LOAD Ta:25°C | V1: -0.2 %~ 0.2 % | P |
| 6 | LINE REGULATION | V1: -0.5% ~ 0.5% (Max) | I/P:100 VAC ~264 VAC O/P:FULL LOAD Ta:25°C | V1: -0.02 %~ 0.02 % | P |
| 7 | LOAD REGULATION | V1: -0.5% ~ 0.5% (Max) | I/P: 230 VAC O/P:FULL ~MIN LOAD Ta:25°C | V1: -0.2 %~ 0.2 % | P |
| 8 | SET UP TIME | 230VAC/ 2500 ms (Max) 115VAC/ 2500 ms (Max) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | 230VAC/ 887 ms 115 VAC/ 1774 ms | P |
| 9 | RISE TIME | 230VAC/ 80 ms (Max) 115VAC/ 80 ms (Max) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | 230VAC/ 6.8 ms 115 VAC/ 6.6 ms | P |
| 10 | 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/ 21 ms 115 VAC/ 22 ms | P |
| 11 | OVER/UNDERSHOOT TEST | < ±5% | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | TEST:< 5 % | P |
| 12 | DYNAMIC LOAD | V1: 3000 mVp-p | I/P: 230 VAC O/P:(1)FULL /Min LOAD 90%DUTY/1KHZ (2)FULL /Min LOAD 90%DUTY/120HZ Ta:25°C | 198 mVp-p 1550 mVp-p | P |

| | | | | | | | | | | | | | |
|----|------------------------------|---|------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|
| 13 | DIMMER TEST (B Type only) | SPEC: | | | | | | | | | | | |
| | | *Reference resistance value for output current adjustment (Typical) | | | | | | | | | | | |
| | | Resistance value | 10K | 20K | 30K | 40K | 50K | 60K | 70K | 80K | 90K | 100K | |
| | | Output current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | |
| | | *1 ~ 10V dimming function for output current adjustment (Typical) | | | | | | | | | | | |
| | | Dimming value | 1V | 2V | 3V | 4V | 5V | 6V | 7V | 8V | 9V | 10V | |
| | | Output current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | |
| | | *10V PWM signal for output current adjustment (Typical) | | | | | | | | | | | |
| | | Duty value | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | |
| | | Output current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | |
| | | TEST RESULT: I/P : 230 VAC ; Ta : 25°C | | | | | | | | | | | |
| | | 1 | Resistance value | 10K | 20K | 30K | 40K | 50K | 60K | 70K | 80K | 90K | 100K |
| | | | Output current | 0.521A | 1.033A | 1.544A | 2.049A | 2.565A | 3.102A | 3.595A | 4.072A | 4.678A | 5.217A |
| % | 10.42% | | 20.66% | 30.88% | 40.98% | 51.30% | 62.04% | 71.90% | 81.44% | 93.56% | 104.34% | | |
| 2 | Dimming value | | 1V | 2V | 3V | 4V | 5V | 6V | 7V | 8V | 9V | 10V | |
| | Output current | | 0.566A | 1.022A | 1.521A | 2.032A | 2.526A | 3.033A | 3.530A | 4.039A | 4.556A | 5.066A | |
| | % | | 11.32% | 20.44% | 30.43% | 40.64% | 50.52% | 60.66% | 70.60% | 80.78% | 91.12% | 101.32% | |
| 3 | Duty value | | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | |
| | Output current | | 0.566A | 1.065A | 1.567A | 2.067A | 2.569A | 3.073A | 3.579A | 4.090A | 4.605A | 5.109A | |
| | % | | 11.32% | 21.30% | 31.34% | 41.34% | 51.38% | 61.46% | 71.58% | 81.80% | 92.10% | 102.18% | |

P

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------|--|---|---|---------|
| 1 | INPUT VOLTAGE RANGE | 90VAC~264 VAC | I/P:TESTING O/P:FULL LOAD Ta:25°C | 71 V~264V | P |
| | | | I/P: (1)LOW-LINE-3V=87 V (2)HIGH-LINE=264 V O/P:FULL/MIN LOAD ON: 30 Sec . OFF: 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE) | TEST: OK | |
| 2 | INPUT FREQUENCY RANGE | 47HZ ~63 HZ NO DAMAGE OSC | I/P: 100 VAC ~264VAC O/P:FULL~MIN LOAD Ta:25°C | OK | P |
| 3 | POWER FACTOR | 0.95/ 230 VAC FULL LOAD (TYP) 0.98/ 115 VAC FULL LOAD (TYP) | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | PF=0.968 /230V/100%LOAD PF= 0.997 /115V/100%LOAD | P |
| 4 | EFFICIENCY | 93.5% (TYP) | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | 93.67 % | P |
| 5 | INPUT CURRENT | 230 V/ 0.75 A 115 V/ 1.7 A | I/P: 230 VAC I/P: 115 VAC O/P:FULL LOAD Ta:25°C | I = 0.73 A/ 230VAC I = 1.52 A/ 115VAC | P |
| 6 | INRUSH CURRENT | 230 V/ 65A (Typ) COLD START | I/P: 230 VAC O/P:FULL LOAD Ta:25°C | I = 56 A/ 230VAC | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------------|---|---|--|---------|
| 1 | OVER LOAD PROTECTION | 95 %~108 % | I/P: 264VAC I/P: 230 VAC I/P: 100 VAC O/P:TESTING Ta:25°C | 105 %/264VAC 105 %/ 230VAC 105 %//100VAC Constant current limiting, recovers automatically after fault condition is removed | P |
| 2 | OVER VOLTAGE PROTECTION | V1: 34V~ 38V | I/P: 264VAC I/P: 230 VAC I/P: 90 VAC O/P:MIN LOAD Ta:25°C | 35.39 V/ 264VAC 35.39 V/ 230VAC 35.42 V/ 100VAC Shut down o/p voltage with auto recovery or re-power on to recovery | P |
| 3 | OVER TEMPERATURE PROTECTION | SPEC: RTH2: 100±10°C O.T.P. NO DAMAGE | I/P: 230 VAC O/P:FULL LOAD | O.T.P. Active Shut down o/p voltage with auto recovery or re-power on to recovery | P |
| 4 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P: 264VAC O/P: FULL LOAD Ta:25°C | NO DAMAGE Hiccup Mode | P |

COMPONENT STRESS TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|--|--------------------------|---|--|---------|
| 1 | Power Transistor (D to S) or (C to E) Peak Voltage | Q5 Rated 12A/500V | I/P : High-Line +3V = 267V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C | (1) 472 V (2) 446 V (3) 450 V | P |
| 2 | Diode Peak Voltage | Q101 Rated 57A/100V | I/P : High-Line +3V =267V O/P : (1)Full Load Turn on (2)Output Short (3)Full load continue Ta : 25°C | (1) 85 V (2) 24.8 V (3) 73.2 V | P |
| | | Q102 Rated 57A/100V | I/P : High-Line +3V = 267 V O/P : (1)Full Load Turn on (2)Output Short (3)Full load continue Ta : 25°C | (1) 96.8 V (2) 23.6 V (3) 69.6 V | |
| 3 | Input Capacitor Voltage | C5 Rated: 100u/450V | I/P : High-Line +3V = 267V O/P : (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta : 25°C | (1) 434.7 V (2) 434.8 V (3) 434.9 V | P |
| 4 | Control IC Voltage Test | U 900 Rated 8.85V~16V | I/P : High-Line +3V = 267V O/P : (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta : 25°C | (1) 12.679 V (2) 12.614 V (3) 12.608 V | P |
| 5 | P.F.C Transistor (D to S) or (C to E) Peak Voltage | Q1 Rated 17A/600V | I/P : High-Line +3V = 267 V O/P : (1)Full Load Turn on (2)Output Short (3)Full load continue Ta : 25°C | (1) 506 V (2) 448 V (3) 456 V | P |

SAFETY & EMC TEST

SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------------|---|---|---|---------|
| 1 | WITHSTAND VOLTAGE | IEC60950-1 I/P-O/P: 3.75KVAC/min I/P-FG:2 KVAC/min O/P-FG:1.5 KVAC/min | I/P-O/P: 4 KVAC/min I/P-FG: 2.4KVAC/min O/P-FG: 1.8 KVAC/min Ta:25°C | I/P-O/P: 2.627 mA I/P-FG: 2.329 mA O/P-FG: 3.41 mA NO DAMAGE | P |
| 2 | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ | I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C | I/P-O/P: 30 GΩ I/P-FG: 21.2 GΩ O/P-FG:30 GΩ NO DAMAGE | P |
| 3 | GROUNDING CONTINUITY | IEC60950-1 FG(PE) TO CHASSIS OR TRACE < 100 mΩ | 40A / 2min Ta:25°C | 9 mΩ | P |
| 4 | LEAKAGE CURRENT | IEC60950-1 < 0.75 mA / 240VAC | I/P: 240 VAC O/P:Min LOAD Ta:25°C | L-FG: 0.22 mA N-FG: 0.22 mA | P |
| 5 | APPROVAL | TUV: Certificate NO : E334940 UL: File NO : R50185176 | | | P |

E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------|--|--|-------------------------------|---------|
| 1 | HARMONIC | EN61000-3-2 CLASS A CLASS C | I/P: 240VAC/50HZ LOAD:LED/ELECTRONIC LOAD O/P:100%/50% LOAD Ta:25°C | PASS | P |
| 2 | CONDUCTION | EN55022 EN55015 CLASS B | I/P: 230 VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C | PASS Test by certified Lab | P |
| 3 | RADIATION | EN55022 EN55015 CLASS B | I/P: 230 VAC (50HZ) O/P:FULL LOAD Ta:25°C | PASS Test by certified Lab | P |
| 4 | E.S.D | EN61000-4-2 INDUSTRY AIR:8KV / Contact:4KV | 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 L,N-PE:4KV | I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25°C | CRITERIA A | P |

Reliability Test

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|--|--|---|---------|----------|-----|-----------------------------|----------------------------|---|-----|----------------------|--------|--------|---|----|---------------------|--------|--------|---|----|--------|--------|--------|---|----|---------------------|--------|--------|---|----|-------------------------|--------|--------|---|------|------------------------------------|--------|--------|---|----|--------|--------|--------|---|------|---------------------------|--------|--------|---|----|--------------------------|--------|--------|----|------|---------------------------------|--------|--------|----|------|---------------------------|--------|--------|----|-----|---------------------------|--------|--------|----|------|---------------------------|--------|--------|----|-----|----------------------------|--------|--------|----|-------|----------|--------|--------|----|------|----------------|--------|--------|----|----|-----------------|--------|--------|----|----|----------------------------------|--------|------|---|
| 1 | TEMPERATURE RISE TEST | MODEL : HLG-150H-24 1. ROOM AMBIENT BURN-IN : 15.5 HRS I/P : 230VAC O/P : FULL LOAD Ta= 27.8 °C 2. HIGH AMBIENT BURN-IN : 7 HRS I/P : 230VAC O/P : FULL LOAD Ta=57.8 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>ROOM AMBIENT Ta= 27.8 °C</th> <th>HIGH AMBIENT Ta=57.8 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>BD1</td><td>4A/800V GLASS GBU408</td><td>50.5°C</td><td>77.5°C</td></tr> <tr><td>2</td><td>Q1</td><td>STP21NM60N 17A/600V</td><td>54.3°C</td><td>81.3°C</td></tr> <tr><td>3</td><td>L2</td><td>TF2071</td><td>56.1°C</td><td>83.1°C</td></tr> <tr><td>4</td><td>Q5</td><td>STF13NM50N 12A/500V</td><td>55.2°C</td><td>82.2°C</td></tr> <tr><td>5</td><td>D2</td><td>YG971S6R 8A/600V TO220F</td><td>56.3°C</td><td>83.3°C</td></tr> <tr><td>6</td><td>RTH2</td><td>NTC 330KΩ 3Φ TTC3A334F4573EY 1%</td><td>51.5°C</td><td>78.5°C</td></tr> <tr><td>7</td><td>T1</td><td>TF2065</td><td>56.5°C</td><td>83.5°C</td></tr> <tr><td>8</td><td>Q101</td><td>IRFB3607PBF 80A/75V TO220</td><td>52.2°C</td><td>79.2°C</td></tr> <tr><td>9</td><td>D9</td><td>BYV26EGP 1A/1KV DO-204AC</td><td>53.1°C</td><td>80.1°C</td></tr> <tr><td>10</td><td>C102</td><td>1000u/35V UL10Kh 12.5*20 ZLH</td><td>49.9°C</td><td>76.9°C</td></tr> <tr><td>11</td><td>C201</td><td>47u/50V UL10Kh 6.3*11 YXM</td><td>50.4°C</td><td>77.4°C</td></tr> <tr><td>12</td><td>C16</td><td>47u/50V UL10Kh 6.3*11 YXM</td><td>52.0°C</td><td>79.0°C</td></tr> <tr><td>13</td><td>C106</td><td>220u/35V UL8Kh 8*11.5 ZLH</td><td>47.9°C</td><td>74.9°C</td></tr> <tr><td>14</td><td>C38</td><td>100u/25V UL10Kh 6.3*11 YXM</td><td>55.5°C</td><td>82.5°C</td></tr> <tr><td>15</td><td>LF100</td><td>TR891-R1</td><td>48.7°C</td><td>75.7°C</td></tr> <tr><td>16</td><td>U900</td><td>L6599AD SO-16N</td><td>52.7°C</td><td>79.7°C</td></tr> <tr><td>17</td><td>U1</td><td>NCP1608B SOIC-8</td><td>53.0°C</td><td>80.0°C</td></tr> <tr><td>18</td><td>C5</td><td>100u/450V 5Kh 105°C 18*35 KXG</td><td>46.4°C</td><td>76°C</td></tr> </tbody> </table> | NO | Position | P/N | ROOM AMBIENT Ta= 27.8 °C | HIGH AMBIENT Ta=57.8 °C | 1 | BD1 | 4A/800V GLASS GBU408 | 50.5°C | 77.5°C | 2 | Q1 | STP21NM60N 17A/600V | 54.3°C | 81.3°C | 3 | L2 | TF2071 | 56.1°C | 83.1°C | 4 | Q5 | STF13NM50N 12A/500V | 55.2°C | 82.2°C | 5 | D2 | YG971S6R 8A/600V TO220F | 56.3°C | 83.3°C | 6 | RTH2 | NTC 330KΩ 3Φ TTC3A334F4573EY 1% | 51.5°C | 78.5°C | 7 | T1 | TF2065 | 56.5°C | 83.5°C | 8 | Q101 | IRFB3607PBF 80A/75V TO220 | 52.2°C | 79.2°C | 9 | D9 | BYV26EGP 1A/1KV DO-204AC | 53.1°C | 80.1°C | 10 | C102 | 1000u/35V UL10Kh 12.5*20 ZLH | 49.9°C | 76.9°C | 11 | C201 | 47u/50V UL10Kh 6.3*11 YXM | 50.4°C | 77.4°C | 12 | C16 | 47u/50V UL10Kh 6.3*11 YXM | 52.0°C | 79.0°C | 13 | C106 | 220u/35V UL8Kh 8*11.5 ZLH | 47.9°C | 74.9°C | 14 | C38 | 100u/25V UL10Kh 6.3*11 YXM | 55.5°C | 82.5°C | 15 | LF100 | TR891-R1 | 48.7°C | 75.7°C | 16 | U900 | L6599AD SO-16N | 52.7°C | 79.7°C | 17 | U1 | NCP1608B SOIC-8 | 53.0°C | 80.0°C | 18 | C5 | 100u/450V 5Kh 105°C 18*35 KXG | 46.4°C | 76°C | p |
| NO | Position | P/N | ROOM AMBIENT Ta= 27.8 °C | HIGH AMBIENT Ta=57.8 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | BD1 | 4A/800V GLASS GBU408 | 50.5°C | 77.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Q1 | STP21NM60N 17A/600V | 54.3°C | 81.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | L2 | TF2071 | 56.1°C | 83.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Q5 | STF13NM50N 12A/500V | 55.2°C | 82.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | D2 | YG971S6R 8A/600V TO220F | 56.3°C | 83.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | RTH2 | NTC 330KΩ 3Φ TTC3A334F4573EY 1% | 51.5°C | 78.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | T1 | TF2065 | 56.5°C | 83.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Q101 | IRFB3607PBF 80A/75V TO220 | 52.2°C | 79.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | D9 | BYV26EGP 1A/1KV DO-204AC | 53.1°C | 80.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | C102 | 1000u/35V UL10Kh 12.5*20 ZLH | 49.9°C | 76.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | C201 | 47u/50V UL10Kh 6.3*11 YXM | 50.4°C | 77.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | C16 | 47u/50V UL10Kh 6.3*11 YXM | 52.0°C | 79.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | C106 | 220u/35V UL8Kh 8*11.5 ZLH | 47.9°C | 74.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | C38 | 100u/25V UL10Kh 6.3*11 YXM | 55.5°C | 82.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | LF100 | TR891-R1 | 48.7°C | 75.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | U900 | L6599AD SO-16N | 52.7°C | 79.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | U1 | NCP1608B SOIC-8 | 53.0°C | 80.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | C5 | 100u/450V 5Kh 105°C 18*35 KXG | 46.4°C | 76°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | OVER LOAD BURN-IN TEST | NO DAMAGE 1 HOUR (MIN) | I/P : 264 VAC O/P : O/P SHORT TEST Ta : 25°C | TEST : OK | p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P : 264 VAC/100VAC O/P : 95% LOAD Ta= -40 °C | TEST : OK | p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL 60 °C NO DAMAGE | I/P : 264 VAC O/P : 95% LOAD Ta= 60 °C HUMIDITY= 95%R.H | TEST : OK | p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | TEMPERATURE COEFFICIENT | ± 0.03 % (0~50°C) | I/P : 230 VAC O/P : FULL LOAD | ± 0.012 % (0~50°C) | p | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



150W Single Output Switching Power Supply

HLG-150 series

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|----|-----------------------------|---|---|---|
| 7 | THERMAL SHOCK TEST | 1. Thermal shock Temperature : -35°C~ +65°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 |
| 8 | 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 |
| 9 | CAPACITOR LIFE CYCLE | HLG-150H-24:SUPPOSE C102 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= 60 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 60 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 60 °C LIFE TIME | (1) 680005 HRS (2) 73985 HRS (3) 103973 HRS (4) 121916 HRS | P |
| 10 | MTBF | MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE : 192.2 K HRS | OK | P |
| 11 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure(Expected Life) : 50,000 hours @ Tcase 75°C | OK | P |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|-----------|----------------|-------------|------------|---------------|
| 2010/3/3 | RD SAMPLE | PASS | SANFORD SU | VINCENT TSENG |
| 2010/5/10 | PRODUCT SAMPLE | PASS | SANFORD SU | VINCENT TSENG |

2003/12/12 A50-F023