



Test Report: ELG-150-48

150W 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

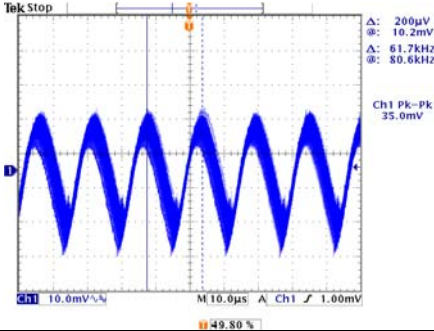
Environment Test

■ DESIGN VERIFY TEST

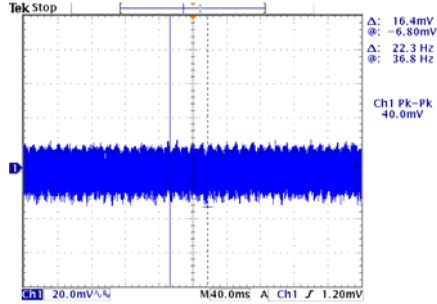
OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------------|---------------|--|------------------|
| 1 | CONSTANT CURRENT REGION | 24V~48V | I/P: 230VAC O/P: LED MODE Ta: 25°C | 9.01 V~ 48.03 V |
| 2 | OUTPUT VOLTAGE ADJUST RANGE | 43.2V~52.8V | I/P: 230VAC O/P: NO LOAD Ta: 25°C | 40.14 V~ 54.56 V |
| 3 | OUTPUT CURRENT ADJUST RANGE | 1.56A~3.13A | I/P: 230VAC O/P: SETTING Ta: 25°C | 1.229 A~ 3.535 A |
| 4 | OUTPUT VOLTAGE TOLERANCE | -2%~+2% | I/P: 100VAC / 305VAC O/P: FULL/ NO LOAD Ta: 25°C | -0.21%~ 0.35% |
| 5 | LINE REGULATION | -0.5%~+0.5% | I/P: 200VAC ~ 305VAC O/P: FULL LOAD Ta: 25°C | -0.02%~ 0.02% |
| 6 | LOAD REGULATION | -0.5%~+0.5% | I/P: 230VAC O/P: FULL ~NO LOAD Ta: 25°C | -0.04%~ 0.02% |
| 7 | OVER/UNDERSHOOT TEST | <± 5 % | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | ±2.092% |
| 8 | RIPPLE & NOISE (Max) | 250mVp-p | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | 40.0 mVp-p |

high frequency :



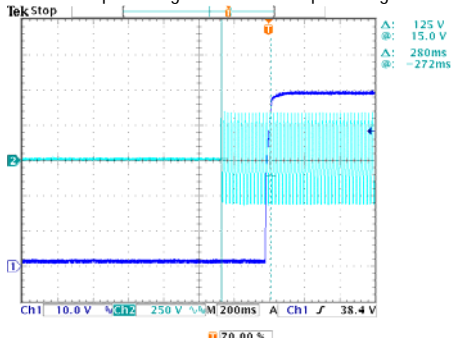
low frequency :



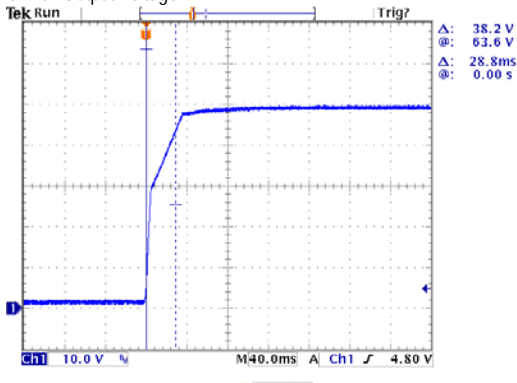
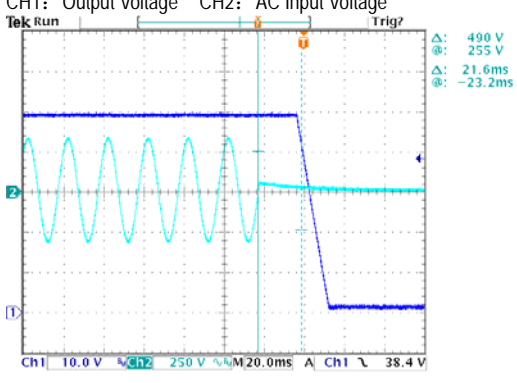
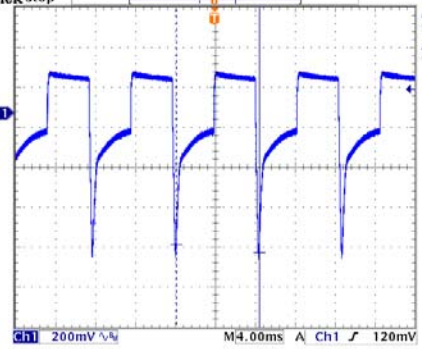
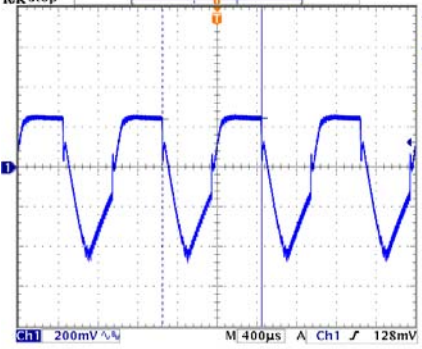
| | | | | |
|---|------------------|---------------|---|----------------|
| 9 | SET UP TIME(Max) | 230VAC/ 500ms | I/P: 230 VAC O/P: 95% LOAD Ta: 25°C | 230VAC/ 280 ms |
|---|------------------|---------------|---|----------------|

INPUT=230VAC/50HZ @ 95% LOAD

CH1: Output Voltage CH2: AC Input Voltage



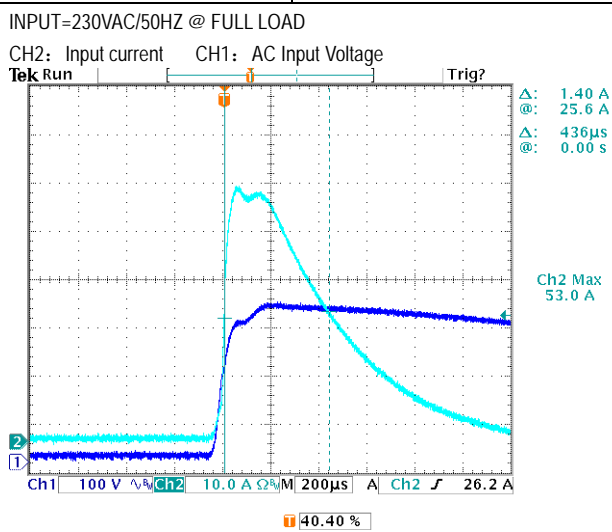


| | | | | |
|---|-------------------|----------------|--|------------------------------|
| 10 | RISE TIME (Max) | 230VAC/ 100ms | I/P: 230 VAC O/P: 95% LOAD Ta: 25°C | 230VAC/ 28.8 ms |
| <p>INPUT=230VAC/50HZ @ 95% LOAD CH1: Output Voltage</p>  | | | | |
| 11 | HOLD UP TIME(Typ) | 230VAC/ 10ms | I/P: 230 VAC O/P: 95% LOAD Ta: 25°C | 230VAC/ 21.6 ms |
| <p>INPUT=230VAC/50HZ @ 95% LOAD CH1: Output Voltage CH2: AC Input Voltage</p>  | | | | |
| 12 | DYNAMIC LOAD | V1: 4800 mVp-p | I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta: 25°C | (1) 940mVp-p (2) 736mVp-p |
| <div style="display: flex; justify-content: space-around;"> <div data-bbox="143 1556 662 1948"> <p>FULL /50% LOAD 50%DUTY / 120HZ</p>  </div> <div data-bbox="861 1556 1380 1948"> <p>FULL /50% LOAD 50%DUTY / 1KHZ</p>  </div> </div> | | | | |

| | | | | | | | | | | | | | | | |
|------------------------|-----------------------------------|---|--|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|
| 13 | DIMMING TEST (For B-Type only) | SPEC: | | | | | | | | | | | | | |
| | | ※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 - 10Vdc or 10V PWM signal between DIM+ and DIM-. | | | | | | | | | | | | | |
| | | ※ Please DO NOT connect "DIM-" to "-V". | | | | | | | | | | | | | |
| | | ※ Reference resistance value for output current adjustment (Typical) | | | | | | | | | | | | | |
| | | Resistance value | Single driver | Short | 10K Ω | 20K Ω | 30K Ω | 40K Ω | 50K Ω | 60K Ω | 70K Ω | 80K Ω | 90K Ω | 100K Ω | OPEN |
| | | | Multiple drivers (N=driver quantity for synchronized dimming operation) | Short | 10K Ω/N | 20K Ω/N | 30K Ω/N | 40K Ω/N | 50K Ω/N | 60K Ω/N | 70K Ω/N | 80K Ω/N | 90K Ω/N | 100K Ω/N | |
| | | Percentage of rated current | | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%-108% |
| | | ※ 0 - 10V dimming function for output current adjustment (Typical) | | | | | | | | | | | | | |
| | | Dimming value | | 0V | 1V | 2V | 3V | 4V | 5V | 6V | 7V | 8V | 9V | 10V | OPEN |
| | | Percentage of rated current | | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%-108% |
| | | ※ 10V PWM signal for output current adjustment (Typical): Frequency range: 100Hz-3KHz | | | | | | | | | | | | | |
| | | Duty value | | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | OPEN |
| | | Percentage of rated current | | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95%-108% |
| TEST RESULT: | | | | | | | | | | | | | | | |
| I/P: 230 VAC; Ta: 25°C | | | | | | | | | | | | | | | |
| 1 | Resistance value | Short | 10K | 20K | 30K | 40K | 50K | 60K | 70K | 80K | 90K | 100K | OPEN | | |
| | Output Current | 0 | 0.289 | 0.601 | 0.910 | 1.220 | 1.530 | 1.837 | 2.145 | 2.457 | 2.763 | 3.073 | 3.137 | | |
| | Percentage of rated current | 0% | 9.23% | 19.20% | 29.07% | 38.98% | 48.88% | 58.69% | 68.53% | 78.50% | 88.27% | 98.18% | 100.22% | | |
| 2 | Dimming value | 0V | 1V | 2V | 3V | 4V | 5V | 6V | 7V | 8V | 9V | 10V | OPEN | | |
| | Output Current | 0 | 0.306 | 0.624 | 0.927 | 1.249 | 1.563 | 1.891 | 2.212 | 2.518 | 2.836 | 3.134 | 3.140 | | |
| | Percentage of rated current | 0% | 9.78% | 19.94% | 29.62% | 39.90% | 49.94% | 60.42% | 70.67% | 80.45% | 90.61% | 100.13% | 100.32% | | |
| 3 | Duty value | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | OPEN | | |
| | Output Current | 0 | 0.320 | 0.631 | 0.944 | 1.254 | 1.569 | 1.880 | 2.191 | 2.508 | 2.817 | 3.099 | 3.135 | | |
| | Percentage of rated current | 0% | 10.22% | 20.16% | 30.16% | 40.06% | 50.13% | 60.06% | 70.00% | 80.13% | 90.00% | 99.01% | 100.16% | | |

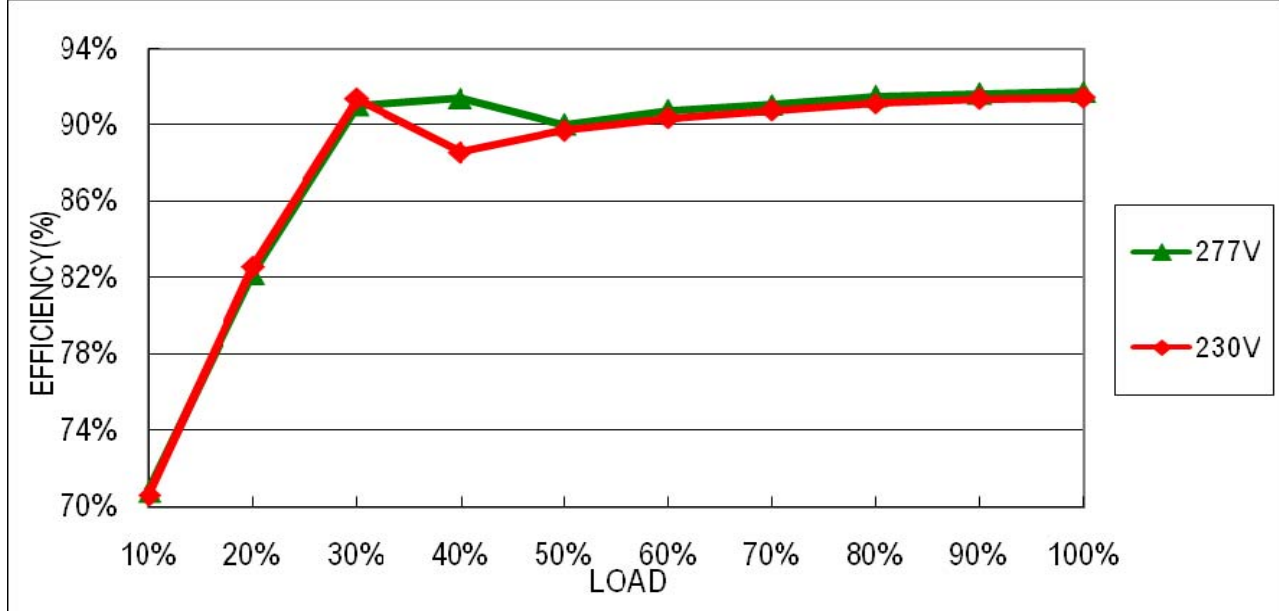
INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|---------------------------|---|---|--|
| 1 | INPUT VOLTAGE RANGE | 100VAC-305VAC | I/P: TESTING O/P: FULL LOAD Ta: 25°C | 97 V~ 305 V |
| | | | I/P: LOW-LINE-3V=97 V HIGH-LINE+10V=315 V O/P: FULL/NO LOAD ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE) | TEST: OK |
| 2 | INPUT FREQUENCY RANGE | 47HZ ~63 HZ NO DAMAGE | I/P: 100 VAC ~305 VAC O/P: FULL-NO LOAD Ta: 25°C | TEST: OK |
| 3 | AC CURRENT | 0.7A/277VAC 0.9A/230VAC | I/P: 277 VAC I/P: 230 VAC O/P: FULL LOAD Ta: 25°C | I = 0.57 A/ 277VAC I = 0.68 A/ 230VAC |
| 4 | LEAKAGE CURRENT | < 0.75mA / 277VAC | I/P: 277 VAC O/P: NO LOAD Ta: 25°C | L-FG: 0.339 mA N-FG: 0.307 mA |
| 5 | NO LOAD POWER CONSUMPTION | < 0.5W | I/P: 230VAC O/P: NO LOAD Ta: 25°C | 0.338 W/ 230VAC |
| 6 | TOTAL HARMONIC DISTORTION | Total harmonic distortion will be lower than 20% when output loading is 50% or higher at 230VAC | I/P: 230VAC O/P: 50% LOAD | THD: 12.28 % |
| | | Total harmonic distortion will be lower than 20% when output loading is 75% or higher at 277VAC | I/P: 277VAC O/P: 75% LOAD | THD: 9.82 % |
| 7 | INRUSH CURRENT(Typ) | 230V/ 65A Twidth =550us measured at 50% Ipeak COLD START | I/P: 230 VAC O/P: FULL LOAD Ta: 25°C | I = 53.0 A/ 230VAC Twidth =436 us |



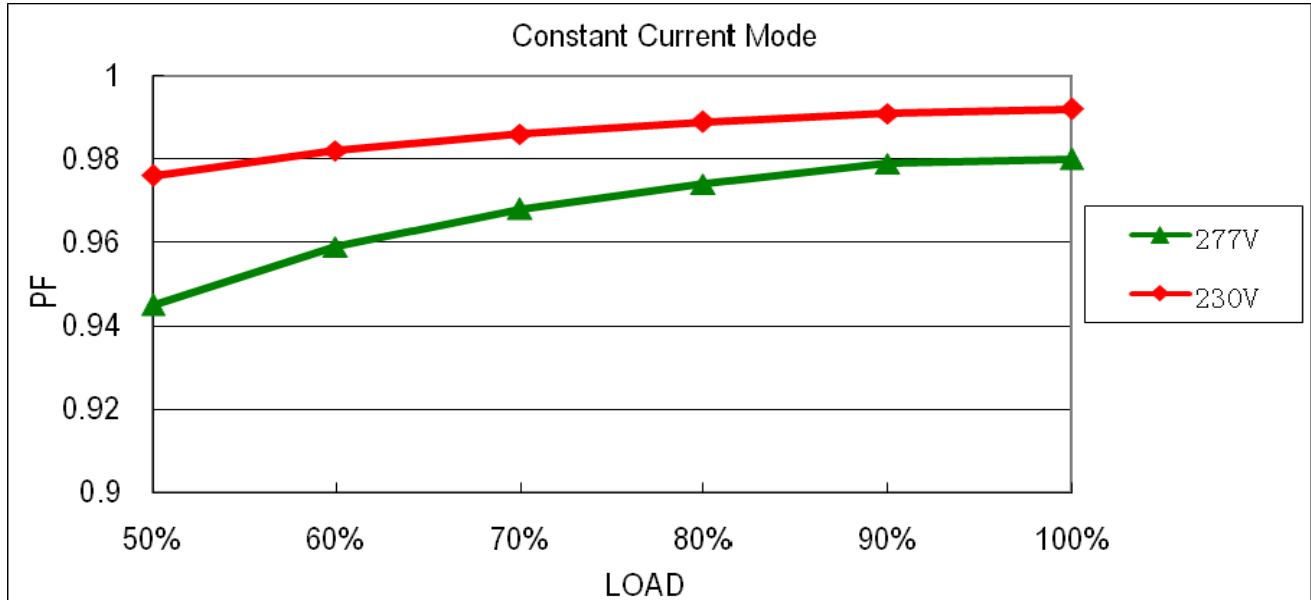
| | | | | |
|---|-----------------|-----|---|--------|
| 8 | EFFICIENCY(Typ) | 90% | I/P: 230VAC O/P: FULL LOAD Ta: 25°C | 91.43% |
|---|-----------------|-----|---|--------|

EFFICIENCY vs LOAD



| | | | | |
|---|--------------|------------------------------|--|--|
| 9 | POWER FACTOR | 0.92/ 277VAC 0.95/ 230VAC | I/P: 277 VAC I/P: 230 VAC O/P: FULL LOAD Ta: 25°C | PF= 0.980 / 277VAC PF= 0.992 / 230VAC |
|---|--------------|------------------------------|--|--|

P.F vs LOAD



PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------------|---|---|--|
| 1 | OVER LOAD PROTECTION | 95%-108% | I/P: 200VAC I/P: 230VAC I/P: 305VAC O/P: TESTING Ta: 25°C | 101.56 %/ 200VAC 101.68 %/ 230VAC 101.68 %/ 305VAC Constant Current Limiting, recovers automatically after fault condition is removed |
| 2 | OVER VOLTAGE PROTECTION | 54V-62V | I/P: 100VAC I/P: 230VAC I/P: 305VAC O/P: NO LOAD Ta: 25°C | 57.32 V/ 100VAC 57.29 V/ 230VAC 57.30 V/ 305VAC Shut down o/p voltage, re-power on to recovery |
| 3 | OVER TEMPERATURE PROTECTION | NO DAMAGE | I/P: 200VAC I/P: 230VAC I/P: 305VAC O/P: FULL LOAD | O.T.P. Active Shut down o/p voltage, re-power on to recovery |
| 4 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P: 200VAC I/P: 305VAC O/P: FULL LOAD Ta: 25°C | NO DAMAGE Hiccup mode, recovers automatically after fault condition is removed |

COMPONENT STRESS TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|----------------------|------------------------|--|--|
| 1 | PWM Power Transistor | Q 2 Rated 730V/10A | I/P: High-Line +3V =308V O/P: (1) Full Load Turn on (2) Output Short (3) Full load continue Ta: 25°C | (1) 670 V (2) 544 V (3) 666 V |
| 2 | O/P Diode (MOSFET) | Q101 Rated 300V/20A | I/P: High-Line +3V =308V O/P: (1) Full Load Turn on (2) Output Short (3) Full load continue Ta: 25°C | (1) 204 V (2) 154 V (3) 204 V |
| 3 | Input Capacitor | C5 Rated 100u/ 450V | I/P: High-Line +3V =308 V O/P: (1) Full Load input on/off (2) NO LOAD input on /Off (3) Full Load /NO LOAD Change Ta: 25°C | (1) 448 V (2) 442 V (3) 446 V |
| 4 | Control IC | U1 Rated 28V (MAX.) | I/P: High-Line +3V =308 V O/P: ((1) FULL LOAD (2) Output Short (3) O.L.P (4) O.V.P (5) Low Line No Load Vo(min) Ta: 25°C | (1) 17.7 V (2) 15.0 V (3) 11.0 V (4) 14.9 V (5) 17.4 V |
| 5 | PFC Power Transistor | Q 1 Rated 600V/10A | I/P: High-Line +3V =308V O/P: (1) Full Load Turn on (2) Output Short (3) Full load continue Ta: 25°C | (1) 528 V (2) 492 V (3) 490 V |



| | | | | |
|---|-------------|-----------------------|--|------------------------|
| 6 | Clamp Diode | D 10 Rated 800V/2A | I/P: High-Line +3V = 308V O/P: (1) Full Load input on/off (2) Output Short Ta: 25°C | (1) 652 V (2) 480 V |
|---|-------------|-----------------------|--|------------------------|

SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|----------------------|---|--|--|
| 1 | WITHSTAND VOLTAGE | I/P-O/P: 3.75KVAC/min I/P-FG: 2.0KVAC/min O/P-FG: 1.5KVAC/min | I/P-O/P: 4.2KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG: 1.8 KVAC/min Ta: 25°C | I/P-O/P: 1.415 mA I/P-FG: 2.070 mA O/P-FG: 1.403 mA NO DAMAGE |
| 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: >9999 MΩ I/P-FG: >9999 MΩ O/P-FG: >9999 MΩ |

E.M.C TEST

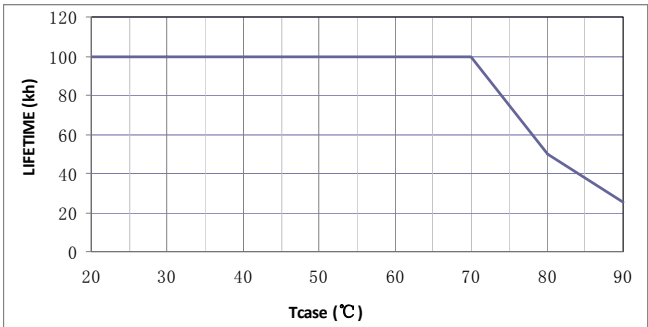
| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|---|---|---|-------------------------------|
| 1 | HARMONIC | EN61000-3-2 CLASS C | I/P: 230VAC/50HZ O/P: FULL/50% LOAD Ta: 25°C | PASS |
| 2 | CONDUCTION | EN55015 | I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C | PASS Test by certified Lab |
| 3 | RADIATION | EN55015 | I/P: 230 VAC (50HZ) O/P: FULL LOAD Ta: 25°C | PASS Test by certified Lab |
| 4 | E.S.D | EN61000-4-2 LIGHT INDUSTRY AIR: 8KV Contact: 4KV | I/P: 230 VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA A |
| 5 | E.F.T | EN61000-4-4 LIGHT INDUSTRY INPUT: 1KV | I/P: 230VAC/50HZ O/P: FULL LOAD Ta: 25°C | CRITERIA A |
| 6 | SURGE | EN61000-4-5 INDUSTRY L-N: 4KV L,N-PE: 6KV | I/P: 230VAC/50HZ O/P: FULL LOAD L-N: 4KV L,N-PE: 6KV Ta: 25°C | CRITERIA A |
| 7 | Test by certified Lab & Test Report Prepare | | | |

■ **RELIABILITY TEST**

ENVIRONMENT TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|---|---|---|--|----|----------|-------------------------|-------------------------|---|-----|--------|--------|---|----|--------|--------|---|----|--------|--------|---|------|--------|--------|---|-----|--------|--------|---|----|--------|--------|---|----|--------|---------|---|----|--------|---------|---|-----|--------|---------|----|----|--------|--------|----|----|--------|---------|----|------|--------|--------|----|----|--------|---------|----|----|--------|--------|----|-----|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|----|--------|--------|
| 1 | TEMPERATURE RISE TEST | MODEL: ELG-150-48 1. ROOM AMBIENT BURN-IN: 2 HRS I/P: 230VAC O/P: FULL LOAD Ta=32.8 °C 2. HIGH AMBIENT BURN-IN: 2 HRS I/P: 230VAC O/P: FULL LOAD Ta=62.2 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta=32.8 °C</th> <th>HIGH AMBIENT Ta=62.2 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF2</td><td>65.6°C</td><td>91.1°C</td></tr> <tr><td>2</td><td>L1</td><td>69.1°C</td><td>94.1°C</td></tr> <tr><td>3</td><td>L3</td><td>68.2°C</td><td>93.2°C</td></tr> <tr><td>4</td><td>ZNR2</td><td>68.9°C</td><td>93.8°C</td></tr> <tr><td>5</td><td>C11</td><td>70.8°C</td><td>96.2°C</td></tr> <tr><td>6</td><td>Q1</td><td>73.6°C</td><td>99.7°C</td></tr> <tr><td>7</td><td>Q2</td><td>76.5°C</td><td>103.3°C</td></tr> <tr><td>8</td><td>D6</td><td>75.5°C</td><td>102.0°C</td></tr> <tr><td>9</td><td>D10</td><td>80.4°C</td><td>108.5°C</td></tr> <tr><td>10</td><td>U1</td><td>66.7°C</td><td>93.1°C</td></tr> <tr><td>11</td><td>R7</td><td>79.2°C</td><td>106.4°C</td></tr> <tr><td>12</td><td>U100</td><td>70.7°C</td><td>96.5°C</td></tr> <tr><td>13</td><td>C5</td><td>76.4°C</td><td>103.8°C</td></tr> <tr><td>14</td><td>T1</td><td>69.1°C</td><td>95.7°C</td></tr> <tr><td>15</td><td>C45</td><td>60.9°C</td><td>87.4°C</td></tr> <tr><td>16</td><td>Q101</td><td>71.5°C</td><td>97.5°C</td></tr> <tr><td>17</td><td>Q102</td><td>71.9°C</td><td>98.1°C</td></tr> <tr><td>18</td><td>Q105</td><td>60.9°C</td><td>87.7°C</td></tr> <tr><td>19</td><td>C205</td><td>68.0°C</td><td>94.2°C</td></tr> <tr><td>20</td><td>C105</td><td>61.4°C</td><td>87.6°C</td></tr> <tr><td>21</td><td>C106</td><td>66.7°C</td><td>93.0°C</td></tr> <tr><td>22</td><td>C108</td><td>63.6°C</td><td>89.5°C</td></tr> <tr><td>23</td><td>RTH2</td><td>66.7°C</td><td>92.9°C</td></tr> <tr><td>24</td><td>U500</td><td>57.7°C</td><td>84.3°C</td></tr> <tr><td>25</td><td>TC</td><td>59.3°C</td><td>86.7°C</td></tr> </tbody> </table> | NO | Position | ROOM AMBIENT Ta=32.8 °C | HIGH AMBIENT Ta=62.2 °C | 1 | LF2 | 65.6°C | 91.1°C | 2 | L1 | 69.1°C | 94.1°C | 3 | L3 | 68.2°C | 93.2°C | 4 | ZNR2 | 68.9°C | 93.8°C | 5 | C11 | 70.8°C | 96.2°C | 6 | Q1 | 73.6°C | 99.7°C | 7 | Q2 | 76.5°C | 103.3°C | 8 | D6 | 75.5°C | 102.0°C | 9 | D10 | 80.4°C | 108.5°C | 10 | U1 | 66.7°C | 93.1°C | 11 | R7 | 79.2°C | 106.4°C | 12 | U100 | 70.7°C | 96.5°C | 13 | C5 | 76.4°C | 103.8°C | 14 | T1 | 69.1°C | 95.7°C | 15 | C45 | 60.9°C | 87.4°C | 16 | Q101 | 71.5°C | 97.5°C | 17 | Q102 | 71.9°C | 98.1°C | 18 | Q105 | 60.9°C | 87.7°C | 19 | C205 | 68.0°C | 94.2°C | 20 | C105 | 61.4°C | 87.6°C | 21 | C106 | 66.7°C | 93.0°C | 22 | C108 | 63.6°C | 89.5°C | 23 | RTH2 | 66.7°C | 92.9°C | 24 | U500 | 57.7°C | 84.3°C | 25 | TC | 59.3°C | 86.7°C |
| NO | Position | ROOM AMBIENT Ta=32.8 °C | HIGH AMBIENT Ta=62.2 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | LF2 | 65.6°C | 91.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | L1 | 69.1°C | 94.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | L3 | 68.2°C | 93.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | ZNR2 | 68.9°C | 93.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | C11 | 70.8°C | 96.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Q1 | 73.6°C | 99.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Q2 | 76.5°C | 103.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | D6 | 75.5°C | 102.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | D10 | 80.4°C | 108.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | U1 | 66.7°C | 93.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | R7 | 79.2°C | 106.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | U100 | 70.7°C | 96.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | C5 | 76.4°C | 103.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | T1 | 69.1°C | 95.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | C45 | 60.9°C | 87.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Q101 | 71.5°C | 97.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Q102 | 71.9°C | 98.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Q105 | 60.9°C | 87.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | C205 | 68.0°C | 94.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | C105 | 61.4°C | 87.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | C106 | 66.7°C | 93.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | C108 | 63.6°C | 89.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | RTH2 | 66.7°C | 92.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | U500 | 57.7°C | 84.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | TC | 59.3°C | 86.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P: 305VAC/200VAC O/P: FULL LOAD Ta= -45°C | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL 60°C NO DAMAGE | I/P: 305VAC O/P: FULL LOAD Ta=60°C HUMIDITY= 95 %R.H | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | TEMPERATURE COEFFICIENT | ±0.03 %/°C (0-50°C) | I/P: 230 VAC O/P: FULL LOAD | ±0.009 %/°C (0-50°C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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| 6 | THERMAL SHOCK TEST | 1. Thermal shock Temperature: -45°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 AC on 3 sec/AC off 1 sec TEST | TEST: OK |
| 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 |
| 8 | CAPACITOR LIFE CYCLE | ELG-150-48: 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= 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) 263305 HRS (2) 32009 HRS (3) 39901 HRS (4) 64509 HRS |
| 9 | MTBF | MIL-HDBK-217F TOTAL FAILURE RATE: 313.66K HRS | |
| 10 | DMTBF/Acelerated Life Test | Demonstration Mean Time Between Failure (Expected Life): Above 50000 hours @ Tc 80°C  | |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|----------------|--------|----------|
| PASS | ZHANGZJ/ZHUOKB | SKY | LIUWY |