



# Test Report: ELG-75-C700

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75W Constant Current Mode LED Driver

## ■ 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

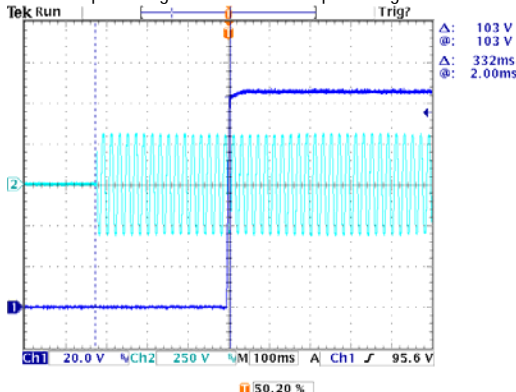
■ DESIGN VERIFY TEST

**OUTPUT FUNCTION TEST**

| NO | TEST ITEM                   | SPECIFICATION | TEST CONDITION                                 | RESULT        |
|----|-----------------------------|---------------|--|---------------|
| 1  | OUTPUT CURRENT ADJUST RANGE | 350mA-700mA   | I/P: 230VAC<br>O/P: LED MODE<br>Ta: 25°C       | 0.223A-0.810A |
| 2  | OUTPUT CURRENT TOLERANCE    | ±5%           | I/P: 230VAC<br>O/P: FULL/ MIN LOAD<br>Ta: 25°C | ±2.22%        |
| 3  | CONSTANT CURRENT REGION     | 53V-107V      | I/P: 230VAC<br>O/P: LED MODE<br>Ta: 25°C       | 20V-107V      |
| 4  | OPEN CIRCUIT VOLTAGE (Max)  | 114V          | I/P: 230VAC<br>O/P: NO LOAD<br>Ta: 25°C        | 111V          |
| 5  | OVER/UNDERSHOOT TEST        | <±5%          | I/P: 230VAC<br>O/P: FULL LOAD<br>Ta: 25°C      | <5%           |
| 6  | OUTPUT CURRENT RIPPLE (Max) | ±5%           | I/P: 230 VAC<br>O/P: LED MODE<br>Ta: 25°C      | <5%           |
| 7  | SET UP TIME(Max)            | 230VAC/ 500ms | I/P: 230 VAC<br>O/P: FULL LOAD<br>Ta: 25°C     | 230VAC/ 332ms |

INPUT=230VAC/50HZ @ FULL LOAD

CH1: Output Voltage CH2: AC Input Voltage



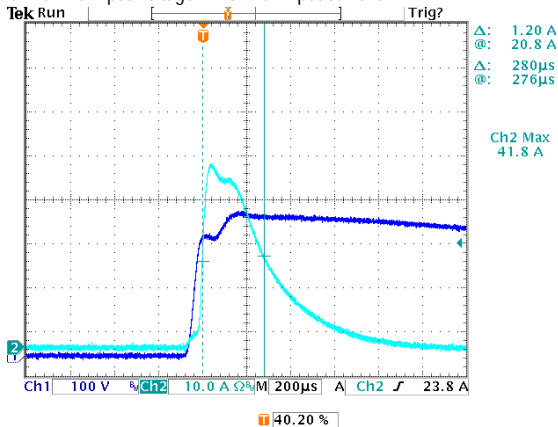
|                        |                                   |   |         |         |         |         |         |         |         |         |         |         |         |
|------------------------|-----------------------------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 8                      | DIMMING TEST<br>(For B-Type only) | SPEC:   |         |         |         |         |         |         |         |         |         |         |         |
|                        |                                   | <ul style="list-style-type: none"> <li>Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10Vdc, or 10V PWM signal or resistance.</li> <li>Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.</li> <li>Dimming source current from power supply: 100uA (typ.)</li> <li>DO NOT connect "DIM-" to "-V".</li> </ul> |         |         |         |         |         |         |         |         |         |         |         |
|                        |                                   | ©Applying additive 0 ~ 10VDC:   |         |         |         |         |         |         |         |         |         |         |         |
|                        |                                   | Dimming input additive voltage  | 0V      | 1V      | 2V      | 3V      | 4V      | 5V      | 6V      | 7V      | 8V      | 9V      | 10V     |
|                        |                                   | Output current  | 0%      | 10%     | 20%     | 30%     | 40%     | 50%     | 60%     | 70%     | 80%     | 90%     | 100%    |
|                        |                                   | ©Applying additive 10V PWM signal (frequency range 100Hz~3KHz):   |         |         |         |         |         |         |         |         |         |         |         |
|                        |                                   | Duty cycle of additive 10V PWM signal dimming input   | 0%      | 10%     | 20%     | 30%     | 40%     | 50%     | 60%     | 70%     | 80%     | 90%     | 100%    |
|                        |                                   | Output current  | 0%      | 10%     | 20%     | 30%     | 40%     | 50%     | 60%     | 70%     | 80%     | 90%     | 100%    |
|                        |                                   | ©Applying additive resistance:  |         |         |         |         |         |         |         |         |         |         |         |
|                        |                                   | Dimming input additive resistance   | Short   | 10K Ω   | 20K Ω   | 30K Ω   | 40K Ω   | 50K Ω   | 60K Ω   | 70K Ω   | 80K Ω   | 90K Ω   | 100K Ω  |
| Output current         | 0%                                | 10%   | 20%     | 30%     | 40%     | 50%     | 60%     | 70%     | 80%     | 90%     | 100%    |         |         |
| TEST RESULT:           |                                   |   |         |         |         |         |         |         |         |         |         |         |         |
| I/P: 230 VAC; Ta: 25°C |                                   |   |         |         |         |         |         |         |         |         |         |         |         |
| 1                      | Dimming voltage                   | 0V  | 1V      | 2V      | 3V      | 4V      | 5V      | 6V      | 7V      | 8V      | 9V      | 10V     |         |
|                        | Output Current                    | 0A  | 0.0801A | 0.1498A | 0.2161A | 0.2868A | 0.3554A | 0.4276A | 0.4985A | 0.5652A | 0.6352A | 0.7011A |         |
|                        | Percentage of rated current       | 0.00%   | 11.44%  | 21.40%  | 30.87%  | 40.97%  | 50.77%  | 61.09%  | 71.21%  | 80.74%  | 90.74%  | 100.16% |         |
|                        | 2                                 | Dimming Duty cycle  | 0%      | 10%     | 20%     | 30%     | 40%     | 50%     | 60%     | 70%     | 80%     | 90%     | 100%    |
|                        |                                   | Output Current  | 0A      | 0.0755A | 0.1453A | 0.2169A | 0.2869A | 0.3589A | 0.4301A | 0.5012A | 0.5738A | 0.6446A | 0.7001A |
|                        |                                   | Percentage of rated current   | 0.00%   | 10.79%  | 20.76%  | 30.99%  | 40.99%  | 51.27%  | 61.44%  | 71.60%  | 81.97%  | 92.09%  | 100.01% |
|                        | 3                                 | Dimming Resistance  | Short   | 10K     | 20K     | 30K     | 40K     | 50K     | 60K     | 70K     | 80K     | 90K     | 100K    |
|                        |                                   | Output Current  | 0A      | 0.0798A | 0.1504A | 0.2216A | 0.2929A | 0.3645A | 0.4365A | 0.5089A | 0.5827A | 0.6567A | 0.7007A |
|                        |                                   | Percentage of rated current   | 0.00%   | 11.40%  | 21.49%  | 31.66%  | 41.84%  | 52.07%  | 62.36%  | 72.70%  | 83.24%  | 93.81%  | 100.10% |

INPUT FUNCTION TEST

| NO | TEST ITEM                 | SPECIFICATION   | TEST CONDITION  | RESULT                               |
|----|---------------------------|---|---|--------------------------------------|
| 1  | INPUT VOLTAGE RANGE       | 100VAC~305VAC   | I/P: TESTING<br>O/P: FULL LOAD<br>Ta: 25°C  | 97V~305V                             |
|    |                           |   | I/P:<br>(1)LOW-LINE-3V=97 V<br>HIGH-LINE+10V=315 V<br>O/P: FULL/MIN LOAD<br>ON: 30 Sec OFF: 30 Sec 10MIN<br>(2)230VAC<br>ON: 0.5 Sec OFF: 0.5 Sec 20MIN<br>(POWER ON/OFF NO DAMAGE) | TEST: OK                             |
| 2  | INPUT FREQUENCY RANGE     | 47HZ ~63 HZ<br>NO DAMAGE  | I/P: 100 VAC ~305 VAC<br>O/P: FULL-MIN LOAD<br>Ta: 25°C   | TEST: OK                             |
| 3  | AC CURRENT                | 0.38A/277VAC<br>0.45A/230VAC  | I/P: 277 VAC<br>I/P: 230 VAC<br>O/P: FULL LOAD<br>Ta: 25°C  | I=0.305A/ 277VAC<br>I=0.362A/ 230VAC |
| 4  | LEAKAGE CURRENT           | < 0.75mA / 277VAC   | I/P: 277 VAC<br>O/P: NO LOAD<br>Ta: 25°C  | L-FG: 0.377mA<br>N-FG: 0.344 mA      |
| 5  | NO LOAD POWER CONSUMPTION | < 0.5W  | I/P: 230VAC<br>O/P: NO LOAD<br>Ta: 25°C   | 0.201W/ 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<br>O/P: 50% LOAD  | THD: 10.04 %                         |
|    |                           | Total harmonic distortion will be lower than 20% when output loading is 75% or higher at 277VAC | I/P: 277VAC<br>O/P: 75% LOAD  | THD: 10.41 %                         |
| 7  | INRUSH CURRENT(Typ)       | 230V/ 50A<br>Twidth =350 us measured at 50% Ipeak<br>COLD START                                 | I/P: 230 VAC<br>O/P: FULL LOAD<br>Ta: 25°C  | I=41.8A/ 230VAC<br>Twidth =280us     |

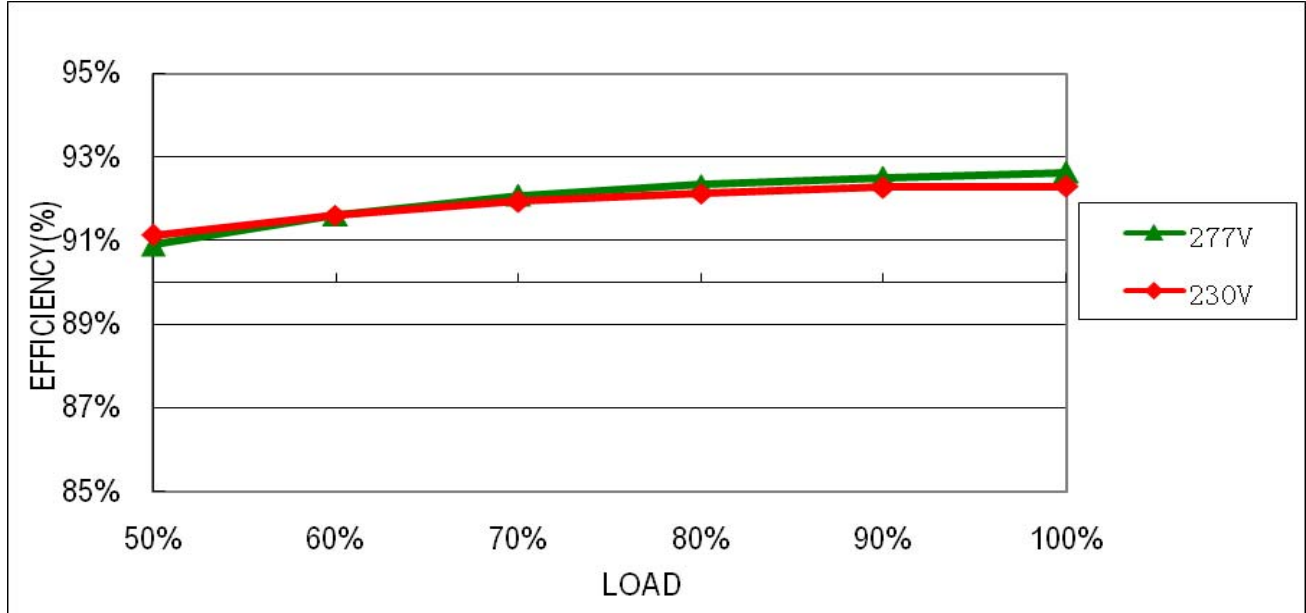
INPUT=230VAC/50HZ @ FULL LOAD

CH1: AC Input Voltage CH2: Input current



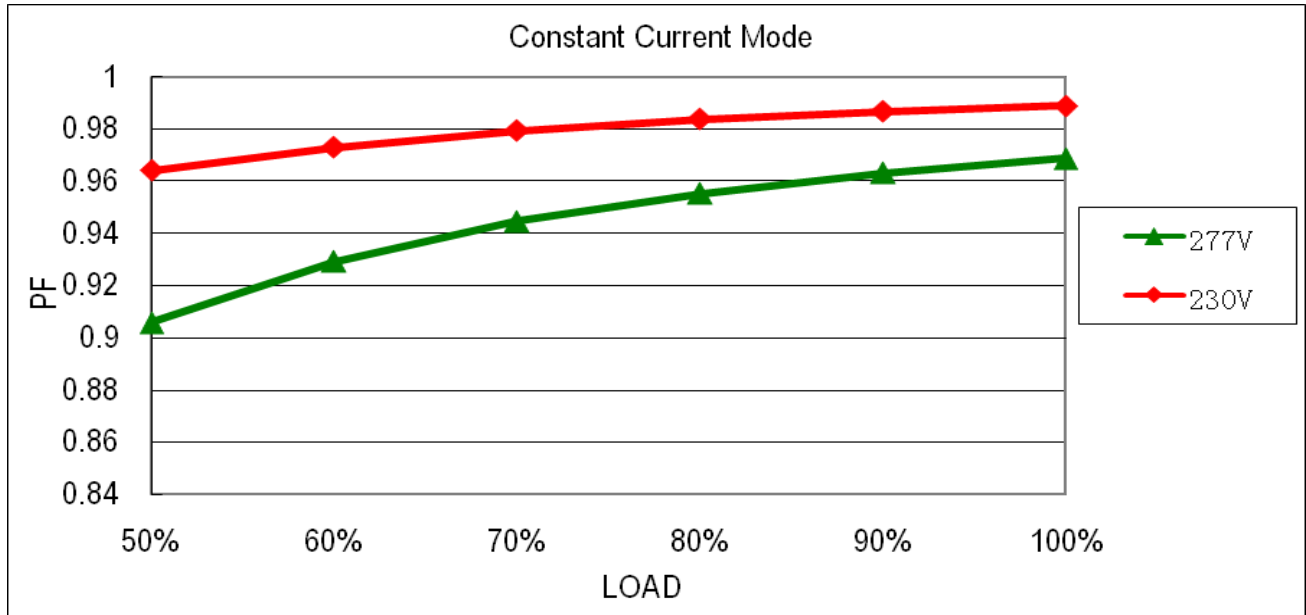
|   |                 |     |   |        |
|---|-----------------|-----|---|--------|
| 8 | EFFICIENCY(Typ) | 90% | I/P: 230VAC<br>O/P: FULL LOAD<br>Ta: 25°C | 92.30% |
|---|-----------------|-----|---|--------|

EFFICIENCY vs LOAD



|   |              |                              |  |                                      |
|---|--------------|------------------------------|--|--------------------------------------|
| 9 | POWER FACTOR | 0.92/ 277VAC<br>0.95/ 230VAC | I/P: 277 VAC<br>I/P: 230 VAC<br>O/P: FULL LOAD<br>Ta: 25°C | PF=0.968/ 277VAC<br>PF=0.988/ 230VAC |
|---|--------------|------------------------------|--|--------------------------------------|

P.F vs LOAD



**PROTECTION FUNCTION TEST**

| NO | TEST ITEM                   | SPECIFICATION                          | TEST CONDITION  | RESULT   |
|----|-----------------------------|--|---|--|
| 1  | OVER VOLTAGE PROTECTION     | 115V-140V                              | I/P: 100VAC<br>I/P: 230VAC<br>I/P: 305VAC<br>O/P: NO LOAD<br>Ta: 25°C | 128.94V/ 100VAC<br>129.01V/ 230VAC<br>129.01V/ 305VAC<br>Shut down o/p voltage, re-power on to recover |
| 2  | OVER TEMPERATURE PROTECTION | NO DAMAGE                              | I/P: 200 VAC<br>I/P: 230VAC<br>I/P: 305VAC<br>O/P: FULL LOAD          | O.T.P. Active<br>Shut down o/p voltage, re-power on to recover   |
| 3  | SHORT CIRCUIT PROTECTION    | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE | I/P: 200VAC<br>I/P: 305VAC<br>O/P: FULL LOAD<br>Ta: 25°C              | NO DAMAGE<br>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<br>800V/5.7A | I/P: High-Line +3V =308V<br>O/P: (1) Full Load Turn on<br>(2) Output Short<br>(3) Full load continue<br>Ta: 25°C                        | (1) 698V<br>(2) 510V<br>(3) 682V                 |
| 2  | O/P Diode (MOSFET)   | D101 Rated<br>600V/10A | I/P: High-Line +3V =308V<br>O/P: (1) Full Load Turn on<br>(2) Output Short<br>(3) Full load continue<br>Ta: 25°C                        | (1) 357V<br>(2) 484V<br>(3) 347V                 |
| 3  | Input Capacitor      | C5 Rated<br>47u/ 450V  | I/P: High-Line +3V =308V<br>O/P: (1) Full Load input on/off<br>(2) Min load input on /Off<br>(3) Full Load /Min load Change<br>Ta: 25°C | (1) 444V<br>(2) 440V<br>(3) 446V                 |
| 4  | Control IC           | U1 Rated<br>28V (MAX.) | I/P: High-Line +3V =308V<br>O/P: (1) FULL LOAD<br>(2) Output Short<br>(3) O.V.P<br>(4) Low Line No Load Vo(min)<br>Ta: 25°C             | (1) 17.2V<br>(2) 11.2V<br>(3) 15.2V<br>(4) 13.8V |
| 5  | PFC Power Transistor | Q 1 Rated<br>600V/5.7A | I/P: High-Line +3V =308V<br>O/P: (1) Full Load Turn on<br>(2) Output Short<br>(3) Full load continue<br>Ta: 25°C                        | (1) 478V<br>(2) 462V<br>(3) 463V                 |
| 6  | Clamp Diode          | D 10 Rated<br>800V/2A  | I/P: High-Line +3V = 308V<br>O/P: (1) Full Load input on/off<br>(2) Output Short<br>Ta: 25°C  | (1) 672V<br>(2) 510V                             |

**SAFETY TEST**

| NO | TEST ITEM            | SPECIFICATION   | TEST CONDITION  | RESULT  |
|----|----------------------|---|---|---|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 3.75KVAC/min<br>I/P-FG : 2.0KVAC/min<br>O/P-FG: 1.5KVAC/min  | I/P-O/P: 4.2 KVAC/min<br>I/P-FG: 2.4 KVAC/min<br>O/P-FG: 1.8 KVAC/min<br>Ta: 25°C | I/P-O/P: 2.136mA<br>I/P-FG: 2.414mA<br>O/P-FG: 1.662mA<br>NO DAMAGE |
| 2  | ISOLATION RESISTANCE | I/P-O/P: 500VDC>100MΩ<br>I/P-FG: 500VDC>100MΩ<br>O/P-FG: 500VDC>100MΩ | I/P-O/P: 500 VDC<br>I/P-FG: 500 VDC<br>O/P-FG: 500 VDC<br>Ta: 25°C                | I/P-O/P: >9999MΩ<br>I/P-FG: >9999MΩ<br>O/P-FG: >9999MΩ              |

**E.M.C TEST**

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

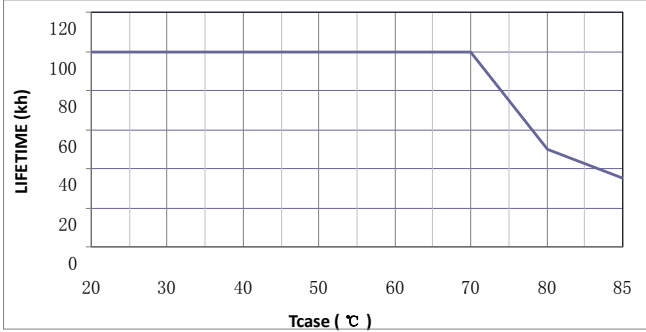
■ **RELIABILITY TEST**

**ENVIRONMENT TEST**

| NO | TEST ITEM   | SPECIFICATION   | TEST CONDITION   | RESULT              |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
|----|---|---|--|---------------------|--------------------------|-----------------------|---|-----|--------|--------|---|----|--------|--------|---|----|--------|--------|---|----|--------|--------|---|-----|--------|--------|---|----|--------|--------|---|-----|--------|--------|---|----|--------|--------|---|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|------|--------|--------|----|----|--------|--------|----|------|--------|--------|----|----|--------|--------|--|--|
| 1  | TEMPERATURE RISE TEST   | MODEL: ELG-75-C700<br>1. ROOM AMBIENT BURN-IN: 2 HRS<br>I/P: 230VAC O/P: FULL LOAD Ta= 31.2°C<br>2. HIGH AMBIENT BURN-IN: 2 HRS<br>I/P: 230VAC O/P: FULL LOAD Ta= 60°C  |  |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
|    |   | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta= 31.2 °C</th> <th>HIGH AMBIENT Ta=60 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF2</td><td>50.7°C</td><td>75.9°C</td></tr> <tr><td>2</td><td>L3</td><td>51.0°C</td><td>76.3°C</td></tr> <tr><td>3</td><td>Q1</td><td>51.9°C</td><td>77.4°C</td></tr> <tr><td>4</td><td>Q2</td><td>53.8°C</td><td>79.3°C</td></tr> <tr><td>5</td><td>D10</td><td>58.7°C</td><td>85.1°C</td></tr> <tr><td>6</td><td>C5</td><td>53.6°C</td><td>78.4°C</td></tr> <tr><td>7</td><td>C45</td><td>51.5°C</td><td>76.4°C</td></tr> <tr><td>8</td><td>T1</td><td>62.1°C</td><td>86.4°C</td></tr> <tr><td>9</td><td>D100</td><td>58.0°C</td><td>82.8°C</td></tr> <tr><td>10</td><td>C105</td><td>52.0°C</td><td>76.8°C</td></tr> <tr><td>11</td><td>C106</td><td>56.3°C</td><td>81.1°C</td></tr> <tr><td>12</td><td>C108</td><td>51.3°C</td><td>76.3°C</td></tr> <tr><td>13</td><td>U1</td><td>50.5°C</td><td>76.0°C</td></tr> <tr><td>14</td><td>RTH2</td><td>50.6°C</td><td>75.7°C</td></tr> <tr><td>15</td><td>TC</td><td>46.7°C</td><td>72.3°C</td></tr> </tbody> </table> | NO   | Position            | ROOM AMBIENT Ta= 31.2 °C | HIGH AMBIENT Ta=60 °C | 1 | LF2 | 50.7°C | 75.9°C | 2 | L3 | 51.0°C | 76.3°C | 3 | Q1 | 51.9°C | 77.4°C | 4 | Q2 | 53.8°C | 79.3°C | 5 | D10 | 58.7°C | 85.1°C | 6 | C5 | 53.6°C | 78.4°C | 7 | C45 | 51.5°C | 76.4°C | 8 | T1 | 62.1°C | 86.4°C | 9 | D100 | 58.0°C | 82.8°C | 10 | C105 | 52.0°C | 76.8°C | 11 | C106 | 56.3°C | 81.1°C | 12 | C108 | 51.3°C | 76.3°C | 13 | U1 | 50.5°C | 76.0°C | 14 | RTH2 | 50.6°C | 75.7°C | 15 | TC | 46.7°C | 72.3°C |  |  |
| NO | Position  | ROOM AMBIENT Ta= 31.2 °C  | HIGH AMBIENT Ta=60 °C  |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 1  | LF2   | 50.7°C  | 75.9°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 2  | L3  | 51.0°C  | 76.3°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 3  | Q1  | 51.9°C  | 77.4°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 4  | Q2  | 53.8°C  | 79.3°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 5  | D10   | 58.7°C  | 85.1°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 6  | C5  | 53.6°C  | 78.4°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 7  | C45   | 51.5°C  | 76.4°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 8  | T1  | 62.1°C  | 86.4°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 9  | D100  | 58.0°C  | 82.8°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 10 | C105  | 52.0°C  | 76.8°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 11 | C106  | 56.3°C  | 81.1°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 12 | C108  | 51.3°C  | 76.3°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 13 | U1  | 50.5°C  | 76.0°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 14 | RTH2  | 50.6°C  | 75.7°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 15 | TC  | 46.7°C  | 72.3°C   |                     |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 2  | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER 2 HOUR  | I/P: 305VAC/200VAC<br>O/P: FULL LOAD<br>Ta= -45°C              | TEST: OK            |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 3  | HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST | AFTER 12 HOURS<br>IN CHAMBER ON<br>CONTROL 60 °C<br>NO DAMAGE   | I/P: 305VAC<br>O/P: FULL LOAD<br>Ta=60 °C<br>HUMIDITY= 95 %R.H | TEST: OK            |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 4  | TEMPERATURE<br>COEFFICIENT  | ±0.03 %/°C (0-50°C)   | I/P: 230 VAC<br>O/P: FULL LOAD                                 | ±0.005%/°C (0-50°C) |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 5  | STORAGE TEMPERATURE TEST  | 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: 5 CYCLE<br>5. Input/Output condition: AC OFF STATIC  |  | TEST: OK            |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |
| 6  | THERMAL SHOCK TEST  | 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: 230VAC/Full Load AC ON/OFF TEST<br>AC on 3 sec/AC off 1 sec TEST  |  | TEST: OK            |                          |                       |   |     |        |        |   |    |        |        |   |    |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |     |        |        |   |    |        |        |   |      |        |        |    |      |        |        |    |      |        |        |    |      |        |        |    |    |        |        |    |      |        |        |    |    |        |        |  |  |





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|----|-----------------------------|--|--|
| 7  | VIBRATION TEST              | 1 Carton & 1 Set<br>(1) Waveform: Sine Wave<br>(2) Frequency: 10-500Hz<br>(3) Sweep Time: 12min/sweep cycle<br>(4) Acceleration: 5G<br>(5) Test Time: 72min in each axis (X.Y.Z)<br>(6) Ta: 25°C   | TEST: OK   |
| 8  | CAPACITOR LIFE CYCLE        | ELG-75-C700: SUPPOSE C102 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) 885846 HRS<br>(2) 103287 HRS<br>(3) 114599 HRS<br>(4) 132312 HRS |
| 9  | MTBF                        | MIL-HDBK-217F NOTICE 2 STRESS ANALYSIS<br>TOTAL FAILURE RATE: 305K HRS   |  |
| 10 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure (Expected Life):<br>50000 hours @ Tcase 80°C<br>  |  |

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