



Test Report: RQ-125C

125W Quad Output Switching Power Supply

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

■ RELIABILITY TEST

ENVIRONMENT TEST

DESIGN VERIFY TEST

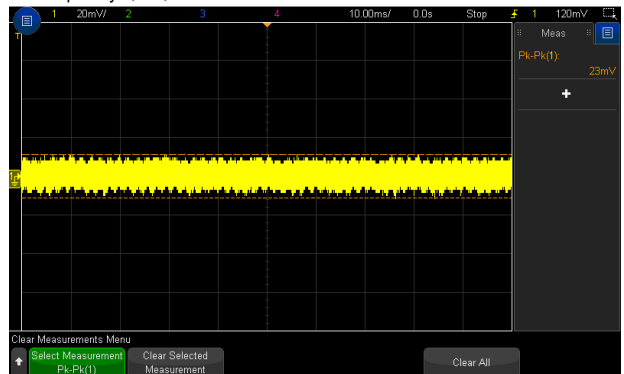
OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-------------------------------|--|---|--|
| 1 | OUTPUT VOLTAGE ADJUST RANGE | CH1: 4.75V~ 5.5 V | I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C | 4.59V~5.71V/230VAC 4.59V~5.71V/115VAC |
| 2 | OUTPUT VOLTAGE(Max) TOLERANCE | V1 : -2%~2 % V2 : -1%~10 % V3 : -10%~6 % V4 : -5%~5 % | I/P: 88VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C | V1 : -0.12%~0.12% V2 : -1.17%~0.5% V3 : -0.55%~1.2% V4 : -0.02%~0.01% |
| 3 | LINE REGULATION (Max) | V1: -0.5%~0.5% V2: -1%~ 1% V3: -1%~ 1% V4: -1%~ 1% | I/P: 88VAC~ 264VAC O/P:FULL LOAD Ta:25°C | V1 : -0.00%~0.00% V2 : -0.02%~0.01% V3 : -0.06%~0.10% V4 : -0.00%~0.00% |
| 4 | LOAD REGULATION(Max) | V1: -1%~1% V2: -3%~3% V3: -6%~6% V4: -2%~2% | I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C | V1 : -0.12%~0.12% V2 : -1.17%~0.5% V3 : -0.55%~1.2% V4 : -0.02%~0.01% |
| 5 | OVER/UNDERSHOOT TEST | < ±10% | I/P: 230VAC O/P:FULL LOAD Ta:25°C | 4.0% |
| 6 | RIPPLE & NOISE(Max) | V1: 80mVp-p V2: 120mVp-p V3: 80mVp-p V4: 80mVp-p | I/P:230VAC O/P:FULL LOAD Ta:25°C | V1: 23mVp-p V2: 80mVp-p V3: 48mVp-p V4: 11mVp-p |

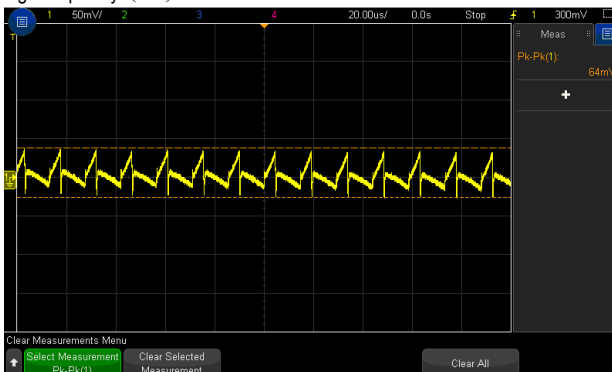
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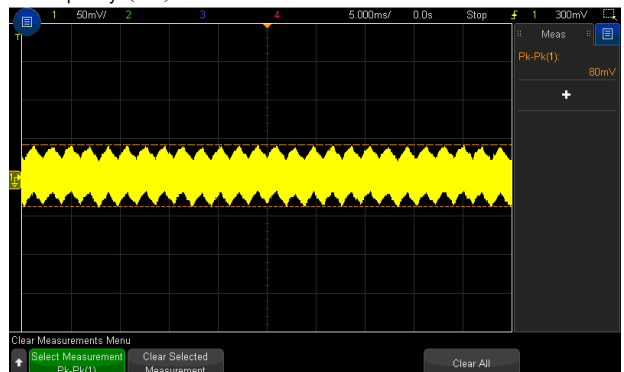
low frequency (V1) :

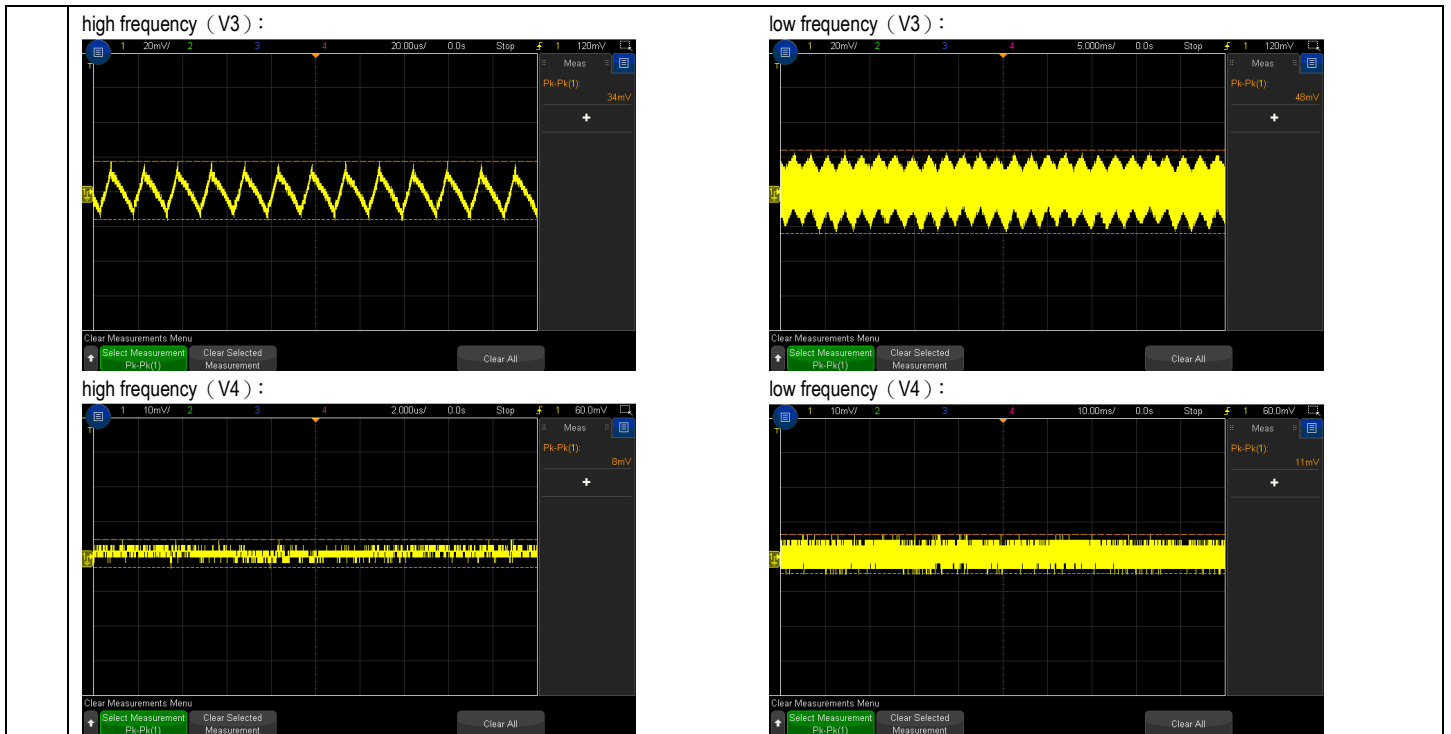


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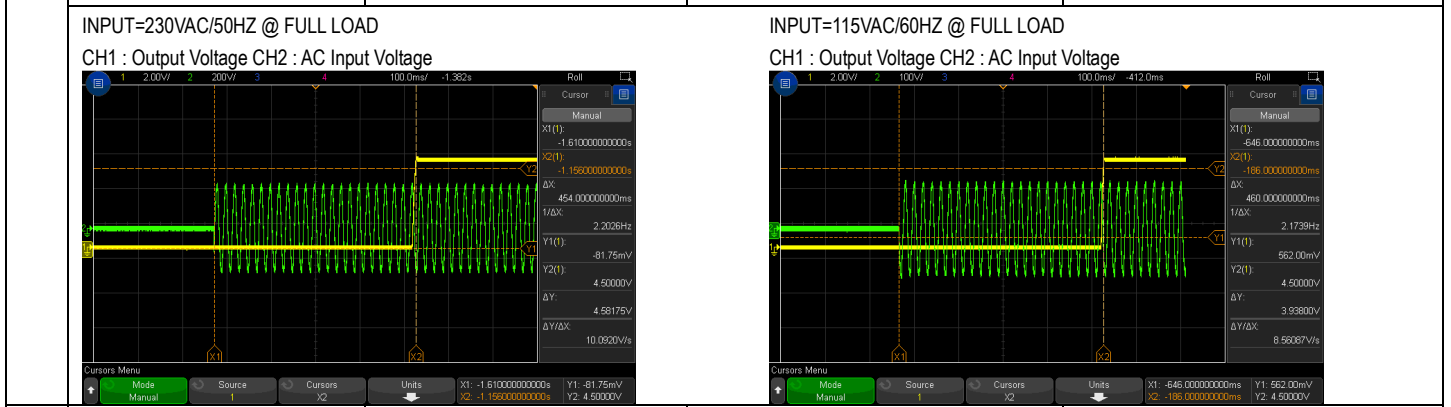


low frequency (V2) :

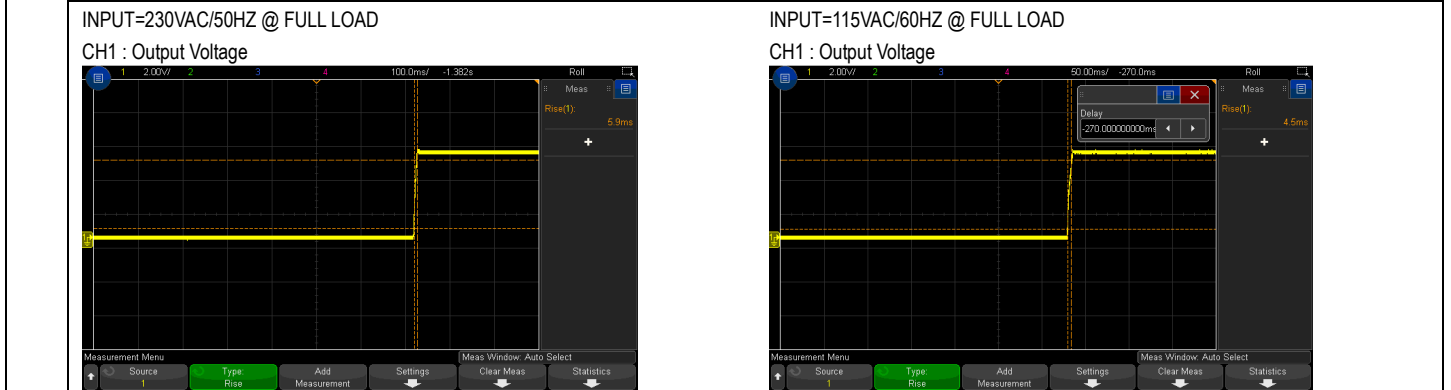


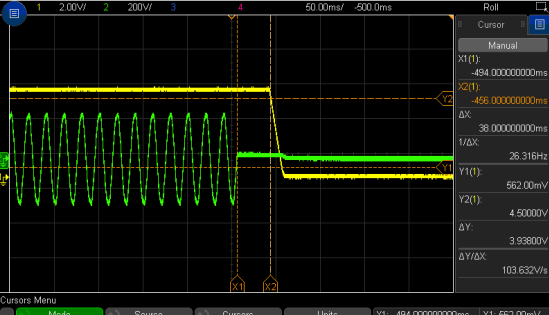
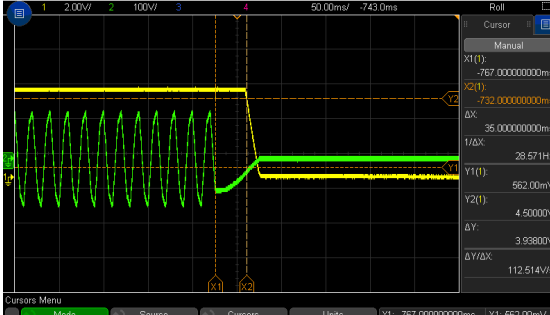
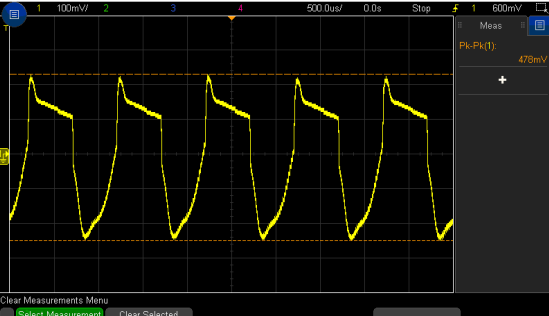
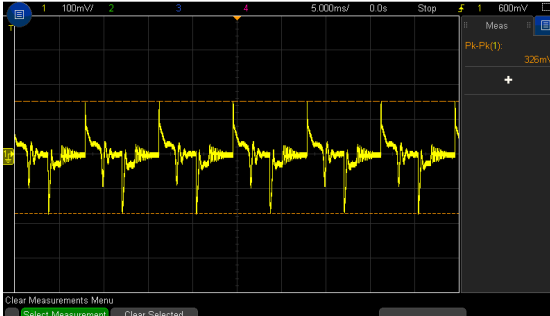
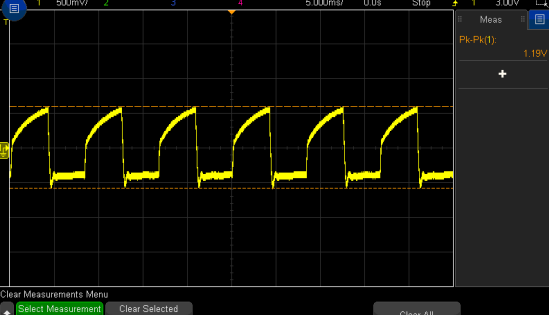
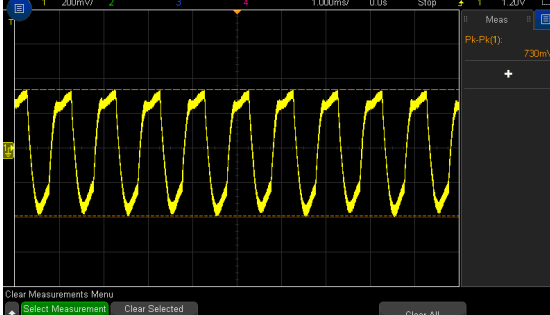
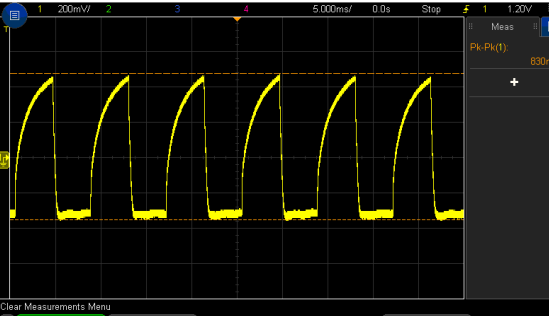
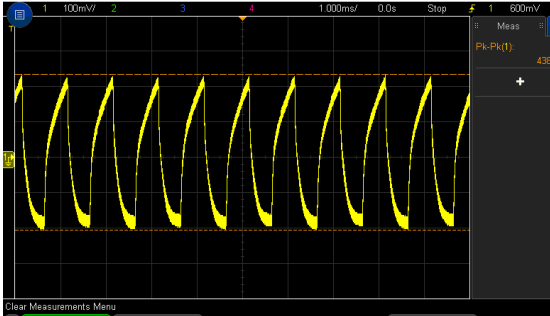


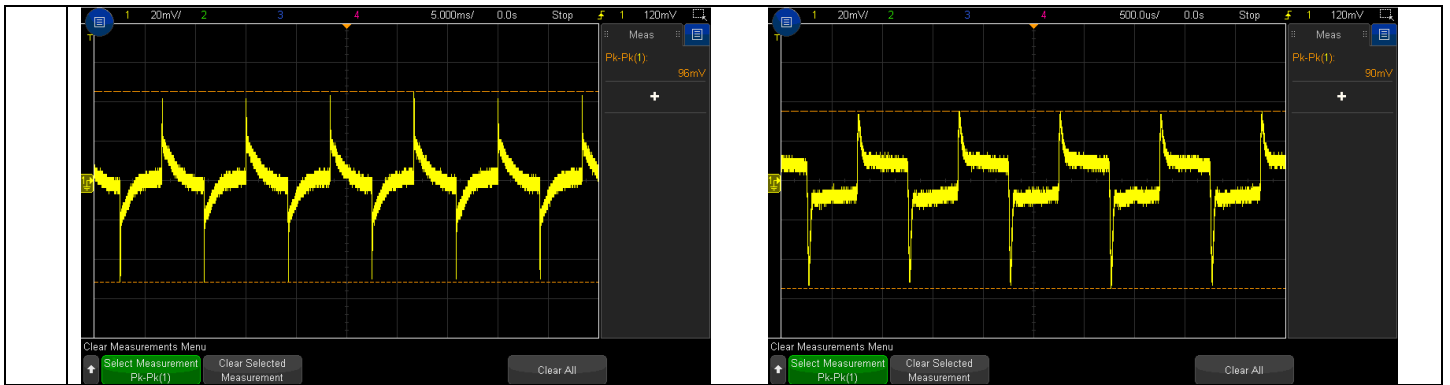
| | | | | |
|---|------------------|-------------------------------|--|---------------------------------|
| 7 | SET UP TIME(Max) | 230VAC/500ms 115VAC/1200ms | I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C | 230VAC/ 454 ms 115VAC/ 460ms |
|---|------------------|-------------------------------|--|---------------------------------|



| | | | | |
|---|-----------------|----------------------------|--|--------------------------------|
| 8 | RISE TIME (Max) | 230VAC/20ms 115VAC/30ms | I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C | 230VAC/5.9 ms 115VAC/4.5 ms |
|---|-----------------|----------------------------|--|--------------------------------|



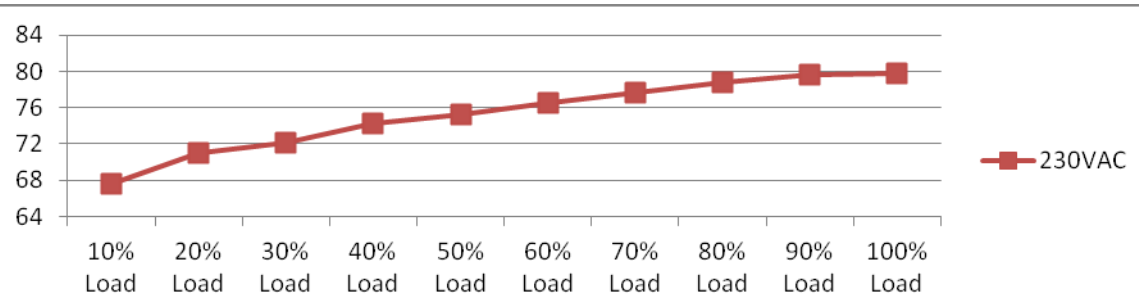
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|--|--|---|---|-----|-----|--------------|----------|---------------|----------|--------------|----------|-------------|---------|
| <p>9</p> | <p>HOLD UP TIME (Typ.)</p> <p>230VAC/25ms 115VAC/30ms</p> | <p>I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C</p> | <p>230VAC/ 38ms 115VAC/ 35ms</p> | | | | | | | | | | |
| <p>INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage</p>  | | <p>INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage</p>  | | | | | | | | | | | |
| <p>10</p> | <p>DYNAMIC LOAD</p> <p>V1: 1000 mVp-p V2: 1500 mVp-p V3: 1000 mVp-p V4: 1500 mVp-p</p> | <p>I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C</p> | <table border="0"> <tr> <td>(1)</td> <td>(2)</td> </tr> <tr> <td>V1: 478mVp-p</td> <td>326mVp-p</td> </tr> <tr> <td>V2: 1190mVp-p</td> <td>730mVp-p</td> </tr> <tr> <td>V3: 830mVp-p</td> <td>438mVp-p</td> </tr> <tr> <td>V4: 96mVp-p</td> <td>90mVp-p</td> </tr> </table> | (1) | (2) | V1: 478mVp-p | 326mVp-p | V2: 1190mVp-p | 730mVp-p | V3: 830mVp-p | 438mVp-p | V4: 96mVp-p | 90mVp-p |
| (1) | (2) | | | | | | | | | | | | |
| V1: 478mVp-p | 326mVp-p | | | | | | | | | | | | |
| V2: 1190mVp-p | 730mVp-p | | | | | | | | | | | | |
| V3: 830mVp-p | 438mVp-p | | | | | | | | | | | | |
| V4: 96mVp-p | 90mVp-p | | | | | | | | | | | | |
| <p>FULL /50% LOAD 50%DUTY / 120HZ (V1)</p>  | | <p>FULL /50% LOAD 50%DUTY / 1KHZ (V1)</p>  | | | | | | | | | | | |
| <p>FULL /50% LOAD 50%DUTY / 120HZ (V2)</p>  | | <p>FULL /50% LOAD 50%DUTY / 1KHZ (V2)</p>  | | | | | | | | | | | |
| <p>FULL /50% LOAD 50%DUTY / 120HZ (V3)</p>  | | <p>FULL /50% LOAD 50%DUTY / 1KHZ (V3)</p>  | | | | | | | | | | | |
| <p>FULL /50% LOAD 50%DUTY / 120HZ (V4)</p> | | <p>FULL /50% LOAD 50%DUTY / 1KHZ (V4)</p> | | | | | | | | | | | |

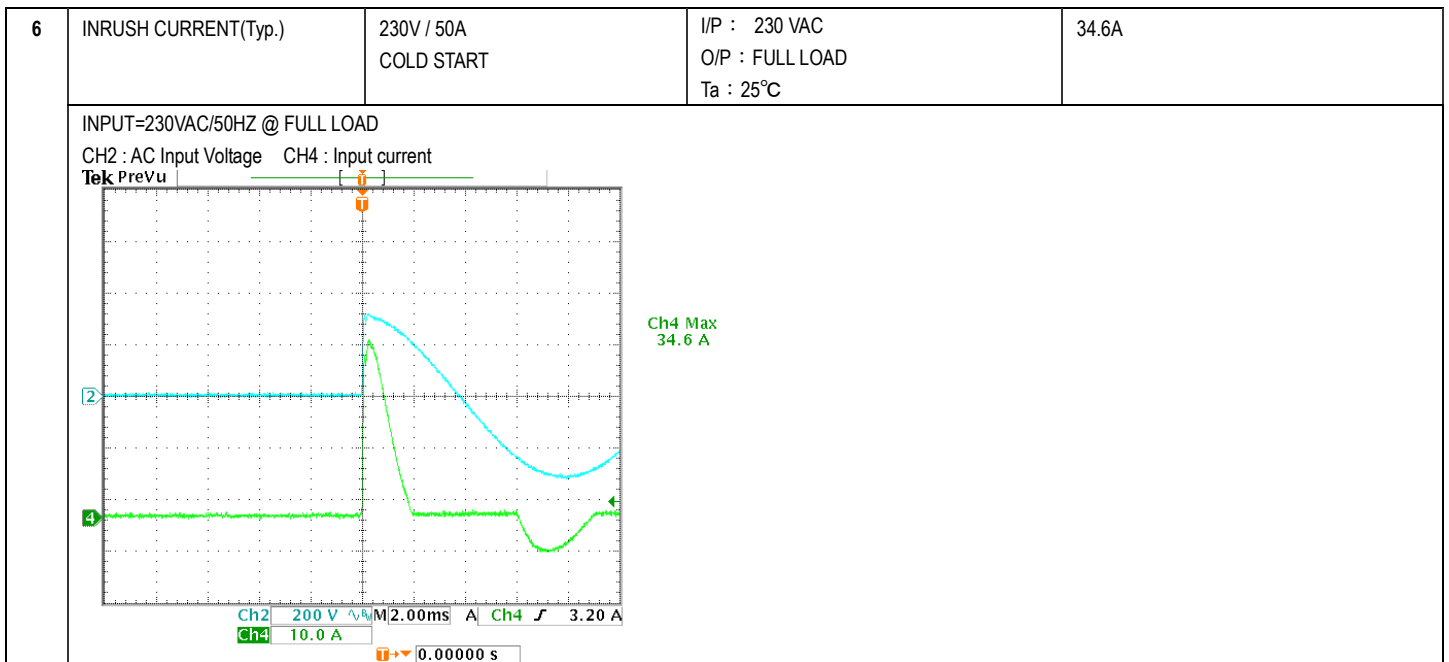


INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------|---|--|--|
| 1 | INPUT VOLTAGE RANGE | 88VAC ~ 132VAC / 176VAC ~ 264VAC selected by switch 248VDC ~ 373VDC (Withstand 300VAC surge for 5sec. Without damage) | (1) I/P:TESTING O/P:FULL LOAD (2) I/P:DC TESTING(L:+ N:-) O/P: FULL LOAD (3) I/P:DC TESTING(L:- N:+) O/P: FULL LOAD Ta:25°C I/P: LOW-LINE-3V=85 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE) | (1) 80V~132V 157V~264V (2) 236.9Vdc~373Vdc/FULL LOAD (3) 236.8Vdc~373Vdc/FULL LOAD TEST:OK |
| 2 | INPUT FREQUENCY RANGE | 47HZ ~63 HZ NO DAMAGE | I/P:88 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C | TEST: OK |
| 3 | INPUT CURRENT (Typ.) | 230V/ 2A 115V/ 3A | I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C | I =1.06A/ 230VAC I =1.93A/ 115VAC |
| 4 | LEAKAGE CURRENT | <2 mA / 240 VAC | I/P : 240 VAC O/P : Min LOAD Ta : 25°C | 0.6mA |
| 5 | EFFICIENCY(Typ.) | 78% | I/P:230 VAC O/P:FULL LOAD Ta:25°C | 79.8% |

EFFICIENCY vs LOAD





PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-------------------------|--|---|---|
| 1 | OVER LOAD PROTECTION | 110%~150% | I/P: 264VAC I/P: 230VAC I/P: 88VAC O/P: TESTING Ta: 25°C | 125.9% / 264VAC 137.6% / 230VAC 137.0% / 88VAC PROTECTION TYPE : Hiccup mode, recovers automatically after fault condition is removed |
| 2 | OVER VOLTAGE PROTECTION | 5.75V~6.75V | I/P: 264VAC I/P: 230VAC I/P: 88VAC O/P: MIN LOAD Ta: 25°C | 6.33V / 264VAC 6.33V / 230VAC 6.33V / 88VAC PROTECTION TYPE : Hiccup mode, recovers automatically after fault condition is removed |
| 3 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P: 264VAC I/P: 88VAC O/P: FULL LOAD Ta: 25°C | NO DAMAGE PROTECTION TYPE : Hiccup mode, recovers automatically after fault condition is removed |

COMPONENT STRESS TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|---|---|--|--|
| 1 | PWM Transistor (D to S) or (C to E) Peak Voltage | Q1 Rated : 900 V | AC ON/OFF I/P: High-Line +3V = 267V VDS: O/P: (1) Full Load (2) Output Short (3) Full Load Continue Ta: 25°C | VDS: (1) 758V (2) 823V (3) 694V |
| 2 | O/P Diode | D55 Rated : 200 V D60 Rated : 40 V | AC ON/OFF I/P: High-Line +3V = 267 V O/P: (1) Full Load (2) Output Short (3) Full Load Continue | D55 D60 (1) 73.9V (2) 79.5V (3) 64.2V (1) 36.9V (2) 35.3V (3) 30.5V |

| | | | | |
|---|--------------------------|---|--|--|
| | | D50 Rated :200 V D52 Rated : 200 V | Ta:25°C | D50 D52 (1) 35.3V (1) 161V (2) 38.5V (2) 115V (3) 30.5V (3) 117V |
| 3 | Input Capacitor Voltage | C5 Rated :330 μ / 200 V | I/P:High-Line +3V =267V O/P: (1)Full Load input on/off (2) Min load input on /Off (3)Full Load /Min load Change (4)Full load continue Ta:25°C | (1) 187V (2) 187V (3) 185V (4) 183V |
| 4 | Control IC Voltage Test | U1 Rated : 8.4V~ 21 V | AC ON/OFF I/P:High-Line +3V =267 V O/P(1)FULL LOAD (2) Output Short (3)O.L.P (4)O.V.P. (5)NO LOAD VRmin(LOW LINE) Ta:25°C | (1) 18.1V (2) 15.3V (3) 18.1V (4) 12.3V (5) 13.5V |
| 5 | Clamp Diode Peak Voltage | D1 Rated : 1000 V | AC ON/OFF I/P : High-Line +3V = 267 V O/P : (1) Dynamic Load 90%Duty/1KHz (2)Full load continue Ta : 25°C | (1) 694V (2) 598V |

SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|----------------------|--|---|--|
| 1 | WITHSTAND VOLTAGE | I/P-O/P: 3KVAC/min I/P-FG:2 KVAC/min O/P-FG: 0.5KVAC/min | I/P-O/P: 3.6 KVAC/min I/P- FG: 2.4 KVAC/min O/P - FG: 0.6 KVAC/min Ta:25°C | I/P-O/P:3.82mA I/P-FG:1.62mA O/P-FG:1.33mA 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: 600 VDC I/P- FG: 600 VDC O/P - FG: 600 VDC Ta:25°C | I/P-O/P: 9999MΩ I/P-FG: 9999MΩ O/P-FG: 9999MΩ NO DAMAGE |
| 3 | GROUNDING CONTINUITY | FG(PE) TO CHASSIS OR TRACE < 100 mΩ | 40 A / 2min Ta: 25°C/70%RH | 7mΩ |

E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|------------|------------------------|--|---|
| 1 | HARMONIC | EN61000-3-2 CLASS A | I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |
| 2 | CONDUCTION | EN55032 CLASS B | I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C | PASS Test by certified Lab |
| 3 | RADIATION | EN55032 CLASS B | I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C | PASS Test by certified Lab |

| | | | | |
|---|--|---|--|------------|
| 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 |
| 5 | E.F.T | EN61000-4-4 INDUSTRY INPUT : 2KV | I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C | CRITERIA A |
| 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 |
| 7 | Test by certified Lab & Test Report Prepare Any contradictions of the test results, please refer to the latest EMC test report. | | | |

RELIABILITY TEST

ENVIRONMENT TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----|------------------------|---|---|---|----|----------|--------------------------|-------------------------|---|-----|--------|--------|---|-----|--------|--------|---|----|--------|--------|---|----|--------|--------|---|-----|--------|---------|---|----|--------|---------|---|-----|--------|--------|---|----|--------|--------|---|-----|---------|---------|----|---------|--------|--------|----|---------|--------|--------|----|-----|--------|--------|----|-----|--------|---------|----|-----|--------|---------|----|-----|--------|--------|----|------|--------|--------|----|-----|--------|---------|----|-----|--------|---------|----|-----|--------|--------|----|-----|--------|--------|----|-----|--------|--------|----|-----|--------|--------|----|-----|--------|--------|----|----|--------|--------|----|----|--------|---------|
| 1 | TEMPERATURE RISE TEST | MODEL : RQ-125D 1. ROOM AMBIENT BURN-IN : 1.5 HRS I/P : 230VAC O/P : FULL LOAD Ta= 30.1 °C 2. HIGH AMBIENT BURN-IN : 1.5 HRS I/P : 230VAC O/P : FULL LOAD Ta=40.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta= 30.1 °C</th> <th>HIGH AMBIENT Ta=40.9 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF1</td><td>57.6°C</td><td>70.9°C</td></tr> <tr><td>2</td><td>BD1</td><td>80.0°C</td><td>91.3°C</td></tr> <tr><td>3</td><td>C5</td><td>71.3°C</td><td>81.0°C</td></tr> <tr><td>4</td><td>D1</td><td>86.8°C</td><td>96.4°C</td></tr> <tr><td>5</td><td>D55</td><td>95.7°C</td><td>106.2°C</td></tr> <tr><td>6</td><td>Q1</td><td>88.7°C</td><td>101.5°C</td></tr> <tr><td>7</td><td>ZD1</td><td>79.0°C</td><td>89.5°C</td></tr> <tr><td>8</td><td>U1</td><td>78.6°C</td><td>88.7°C</td></tr> <tr><td>9</td><td>D60</td><td>100.3°C</td><td>110.7°C</td></tr> <tr><td>10</td><td>T1 core</td><td>82.2°C</td><td>91.8°C</td></tr> <tr><td>11</td><td>T1 coil</td><td>87.9°C</td><td>97.6°C</td></tr> <tr><td>12</td><td>C10</td><td>70.7°C</td><td>81.4°C</td></tr> <tr><td>13</td><td>D52</td><td>97.4°C</td><td>106.7°C</td></tr> <tr><td>14</td><td>L60</td><td>88.8°C</td><td>100.9°C</td></tr> <tr><td>15</td><td>C62</td><td>80.0°C</td><td>91.3°C</td></tr> <tr><td>16</td><td>RTH1</td><td>91.4°C</td><td>97.8°C</td></tr> <tr><td>17</td><td>RG1</td><td>91.7°C</td><td>101.9°C</td></tr> <tr><td>18</td><td>D50</td><td>91.4°C</td><td>101.2°C</td></tr> <tr><td>19</td><td>C51</td><td>77.7°C</td><td>88.6°C</td></tr> <tr><td>20</td><td>C54</td><td>61.1°C</td><td>72.7°C</td></tr> <tr><td>21</td><td>C56</td><td>79.2°C</td><td>90.0°C</td></tr> <tr><td>22</td><td>C53</td><td>85.7°C</td><td>96.5°C</td></tr> <tr><td>23</td><td>C63</td><td>70.5°C</td><td>82.6°C</td></tr> <tr><td>24</td><td>C7</td><td>86.3°C</td><td>95.6°C</td></tr> <tr><td>25</td><td>R3</td><td>99.1°C</td><td>105.7°C</td></tr> </tbody> </table> | NO | Position | ROOM AMBIENT Ta= 30.1 °C | HIGH AMBIENT Ta=40.9 °C | 1 | LF1 | 57.6°C | 70.9°C | 2 | BD1 | 80.0°C | 91.3°C | 3 | C5 | 71.3°C | 81.0°C | 4 | D1 | 86.8°C | 96.4°C | 5 | D55 | 95.7°C | 106.2°C | 6 | Q1 | 88.7°C | 101.5°C | 7 | ZD1 | 79.0°C | 89.5°C | 8 | U1 | 78.6°C | 88.7°C | 9 | D60 | 100.3°C | 110.7°C | 10 | T1 core | 82.2°C | 91.8°C | 11 | T1 coil | 87.9°C | 97.6°C | 12 | C10 | 70.7°C | 81.4°C | 13 | D52 | 97.4°C | 106.7°C | 14 | L60 | 88.8°C | 100.9°C | 15 | C62 | 80.0°C | 91.3°C | 16 | RTH1 | 91.4°C | 97.8°C | 17 | RG1 | 91.7°C | 101.9°C | 18 | D50 | 91.4°C | 101.2°C | 19 | C51 | 77.7°C | 88.6°C | 20 | C54 | 61.1°C | 72.7°C | 21 | C56 | 79.2°C | 90.0°C | 22 | C53 | 85.7°C | 96.5°C | 23 | C63 | 70.5°C | 82.6°C | 24 | C7 | 86.3°C | 95.6°C | 25 | R3 | 99.1°C | 105.7°C |
| NO | Position | ROOM AMBIENT Ta= 30.1 °C | HIGH AMBIENT Ta=40.9 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | LF1 | 57.6°C | 70.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | BD1 | 80.0°C | 91.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | C5 | 71.3°C | 81.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | D1 | 86.8°C | 96.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | D55 | 95.7°C | 106.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Q1 | 88.7°C | 101.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | ZD1 | 79.0°C | 89.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | U1 | 78.6°C | 88.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | D60 | 100.3°C | 110.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | T1 core | 82.2°C | 91.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | T1 coil | 87.9°C | 97.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | C10 | 70.7°C | 81.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | D52 | 97.4°C | 106.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | L60 | 88.8°C | 100.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | C62 | 80.0°C | 91.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | RTH1 | 91.4°C | 97.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | RG1 | 91.7°C | 101.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | D50 | 91.4°C | 101.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | C51 | 77.7°C | 88.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | C54 | 61.1°C | 72.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | C56 | 79.2°C | 90.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | C53 | 85.7°C | 96.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | C63 | 70.5°C | 82.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | C7 | 86.3°C | 95.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | R3 | 99.1°C | 105.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | OVER LOAD BURN-IN TEST | NO DAMAGE 1 HOUR (MIN) | I/P : 230 VAC O/P : 122% LOAD Ta : 25°C | TEST : OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



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| 3 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P : 264VAC/88VAC O/P : 100 % LOAD Ta= -25°C | TEST : OK |
| 4 | HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST | AFTER 12 HOURS IN CHAMBER ON CONTROL40°C /95 %R.H NO DAMAGE | I/P : 272 VAC O/P : FULL LOAD Ta=40 °C HUMIDITY= 95 %R.H | TEST : OK |
| 5 | TEMPERATURE COEFFICIENT | ± 0.03%/°C (0~50°C) | I/P : 230 VAC O/P : FULL LOAD | ± 0.01%/°C (0~50°C) |
| 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 : 10 CYCLE 5. Input/Output condition : STATIC | | TEST : OK |
| 7 | THERMAL SHOCK TEST | 1. Thermal shock Temperature : -30°C~ +45°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 16 CYCLE 5. Input/Output condition : 15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST 1cycle:230V/ FULL LOAD Burn In Test | | TEST : OK |
| 8 | VIBRATION TEST | 1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 10min/sweep cycle (4) Acceleration : 5G (5) Test Time : 180min in each axis (X.Y.Z) (6) Ta : 25°C | | TEST : OK |
| 9 | CAPACITOR LIFE CYCLE | SUPPOSE C62 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=40 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta=40 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 40 °C LIFE TIME | | (1) 118401.4HRS (2) 40397.5HRS (3) 81180 HRS (4) 138029.2HRS |
| 10 | MTBF | 2535.9K hrs min. Telcordia SR-332 (Bellcore) ; 377.7K hrs min. MIL-HDBK-217F (25°C) | | |
| 11 | Ongoing Reliability Test | I/P : 230VAC O/P : FULL LOAD TA=50°C Demonstration Mean Time Between Failure : 30,000 hours | | |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|--------|--------|----------|
| PASS | LIUTT | | Wangdz |

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