



Test Report: LRS-200-12

200W Single Output Switching Power Supply

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Component Stress Test

■ SAFETY TEST

■ RELIABILITY TEST

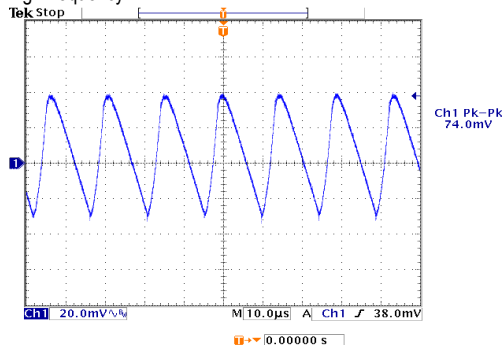
ENVIRONMENT TEST

DESIGN VERIFY TEST

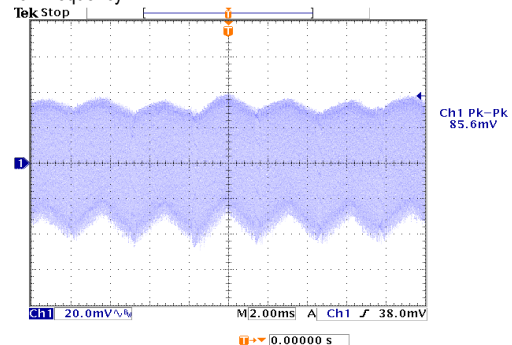
OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-------------------------------|------------------|---|--|
| 1 | OUTPUT VOLTAGE ADJUST RANGE | CH1: 10.2~ 13.8V | I/P: 230 VAC I/P: 115 VAC O/P: MIN LOAD Ta: 25°C | 9.860V~14.124V/230VAC 9.000V~14.126V/115VAC |
| 2 | OUTPUT VOLTAGE(Max) TOLERANCE | V1: -1.5%~ 1.5% | I/P: 100VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C | V1:- 0.01%~ 0.01% |
| 3 | LINE REGULATION (Max) | V1: -0.5%~ 0.5% | I/P: 100VAC~ 264VAC O/P:FULL LOAD Ta:25°C | V1: -0.01%~-0.01% |
| 4 | LOAD REGULATION(Max) | V1:-1%~ 1% | I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C | V1: 0.0%~0% |
| 5 | OVER/UNDERSHOOT TEST | < ±5% | I/P: 230VAC O/P:FULL LOAD Ta:25°C | <5% |
| 6 | RIPPLE & NOISE(Max) | V1: 150mVp-p | I/P:230VAC O/P:FULL LOAD Ta:25°C | V1: 85.6mVp-p |

high frequency :



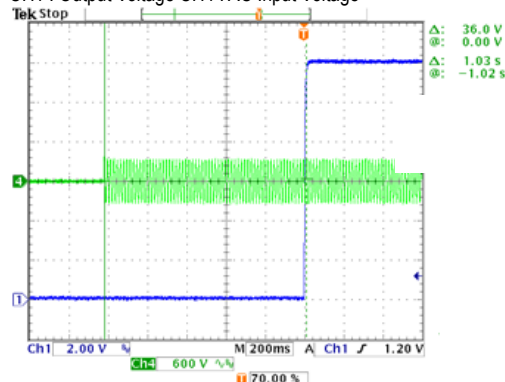
low frequency :



| | | | | |
|---|------------------|---------------------------------|--|----------------------------------|
| 7 | SET UP TIME(Max) | 230VAC/1500ms 115VAC/ 1500ms | I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C | 230VAC/ 1028ms 115VAC/ 1038ms |
|---|------------------|---------------------------------|--|----------------------------------|

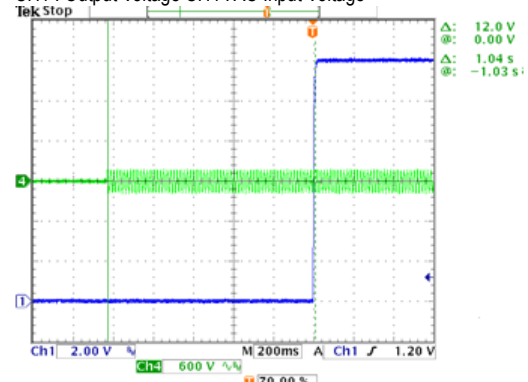
INPUT=230VAC/50HZ @ FULL LOAD

CH1 : Output Voltage CH4 : AC Input Voltage



INPUT=115VAC/60HZ @ FULL LOAD

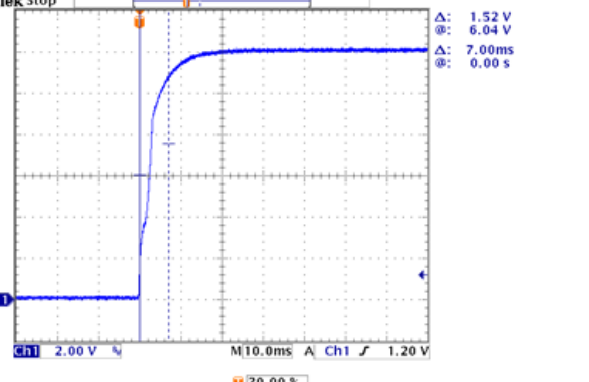
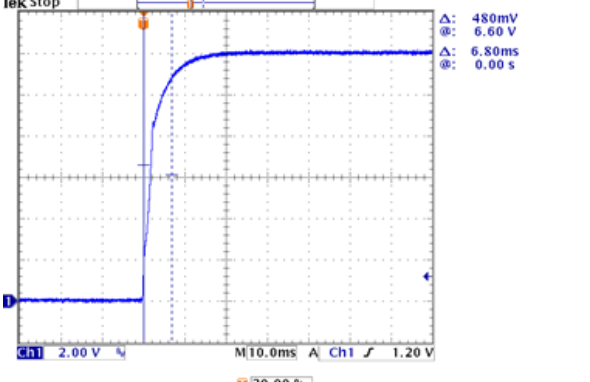
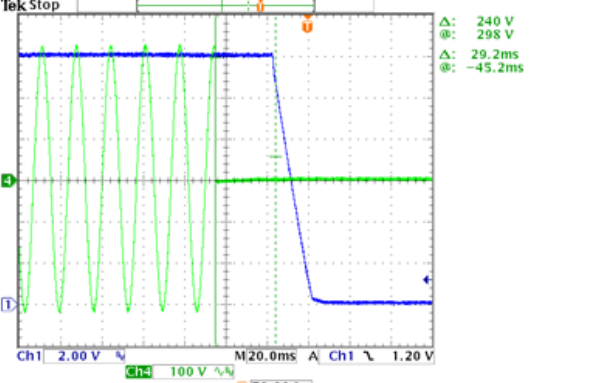
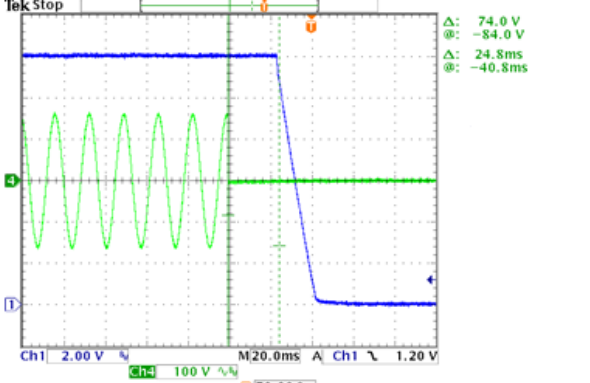
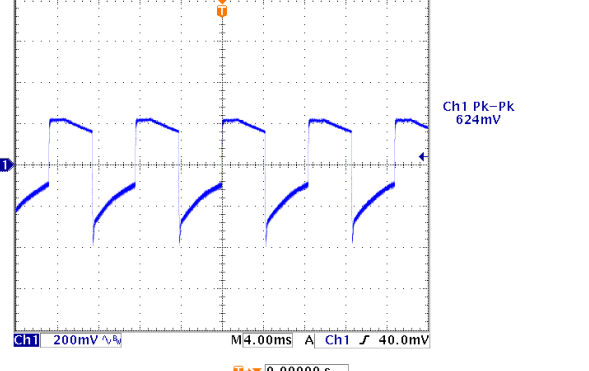
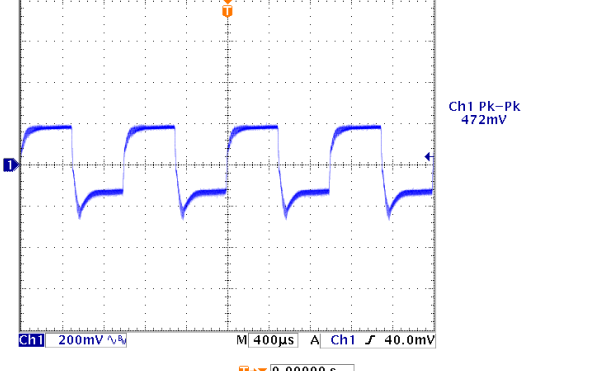
CH1 : Output Voltage CH4 : AC Input Voltage





200W Single Output Switching Power Supply

LRS-200 series

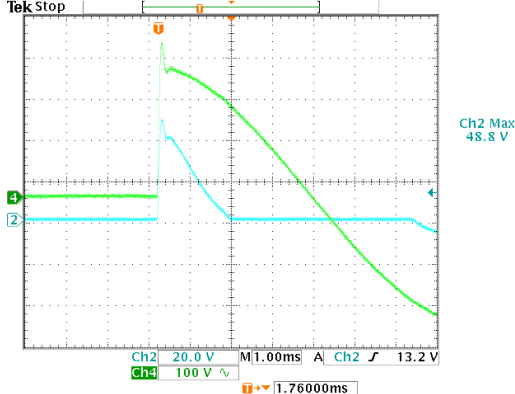
| | | | | |
|---|--------------------|--|---|----------------------------------|
| 8 | RISE TIME (Max) | 230VAC/ 50ms 115VAC/ 50ms | I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C | 230VAC/ 7.00ms 115VAC/6.80ms |
| <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage</p>  | | <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage</p>  | | |
| 9 | HOLD UP TIME(Typ) | 230VAC/ 16ms 115VAC/ 12ms | I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C | 230VAC/ 29.2ms 115VAC/ 24.8ms |
| <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH4 : AC Input Voltage</p>  | | <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH4 : AC Input Voltage</p>  | | |
| 10 | DYNAMIC LOAD | V1: 1200 mVp-p | I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C | 624mVp-p 472mVp-p |
| <p>FULL /50% LOAD 50%DUTY / 120HZ</p>  | | <p>FULL /50% LOAD 50%DUTY / 1KHZ</p>  | | |



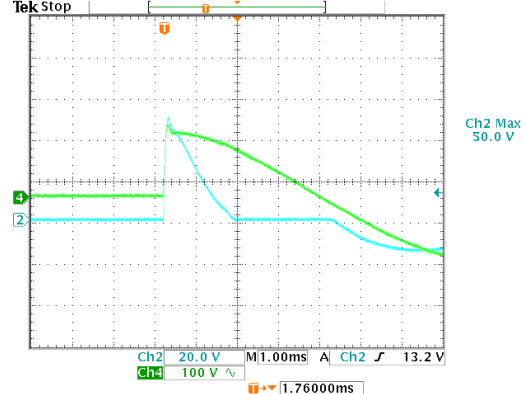
INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------|---|---|--|
| 1 | INPUT VOLTAGE RANGE | 90 ~ 132VAC / 180 ~ 264VAC by switch 240 ~ 370VDC (switch on 230VAC) | I/P:TESTING O/P:FULL LOAD Ta:25°C | 80V~132V 149V~264V 230VDC ~ 370VDC(switch on 230VAC) |
| | | | I/P: (1)LOW-LINE-3V=87 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD ON: 30 Sec OFF: 30 Sec 10MIN (2)230Vac ON: 0.5 Sec OFF: 0.5 Sec 20MIN (3)230Vac ON:3Sec OFF:3Sec 12HOURS (POWER ON/OFF NO DAMAGE) | TEST:OK |
| 2 | INPUT FREQUENCY RANGE | 47HZ ~63 HZ NO DAMAGE | I/P: 180 VAC ~264 VAC 90 VAC ~132 VAC O/P:FULL~MIN LOAD Ta:25°C | TEST: OK |
| 3 | INPUT CURRENT (Typ) | 230V/ 2.2A 115V/ 4A | I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C | I=2.04A/ 230VAC I=3.69A/ 115VAC |
| 4 | LEAKAGE CURRENT | < 2 mA / 240 VAC | I/P: 240 VAC O/P: Min LOAD Ta: 25°C | L-FG: 0.463 mA N-FG: 0.463 mA |
| 5 | NO LOAD CONSUMPTION | < 0.75 W | I/P: 115VAC I/P: 230VAC O/P: NO LOAD Ta: 25°C | < 0.61W < 0.57 W |
| 6 | INRUSH CURRENT(Typ) | 230V/ 60A 115V/ 60A COLD START | I/P: 230 VAC I/P: 115 VAC O/P: FULL LOAD Ta: 25°C | I=48.8A/ 230VAC I=50.0A/ 115VAC |

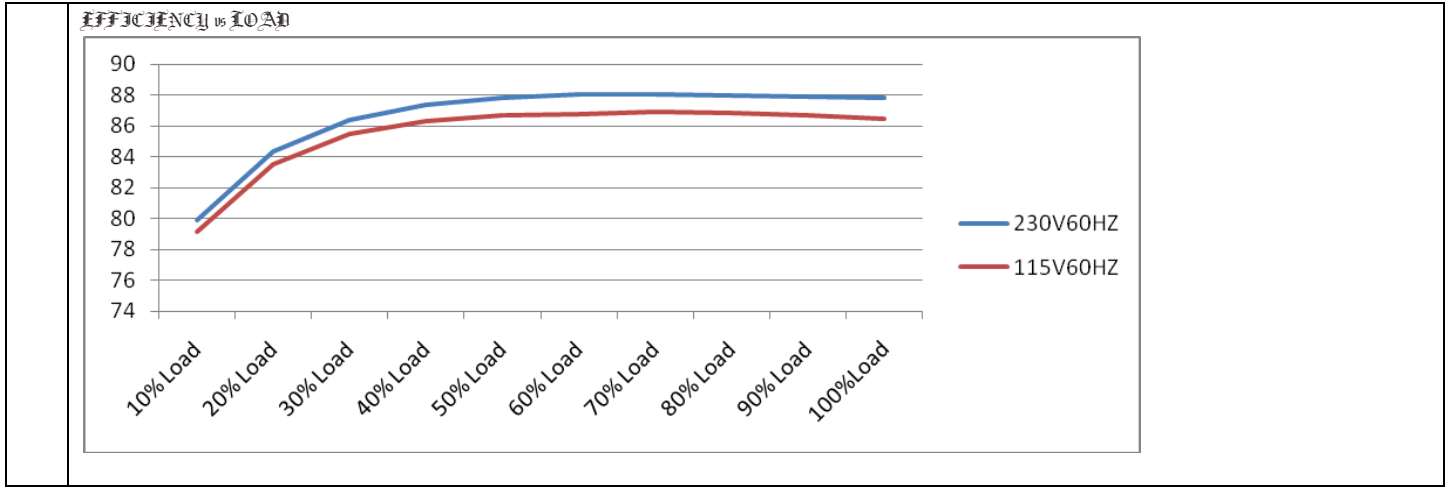
INPUT=230VAC/50HZ @ FULL LOAD
CH2 : Input current (1V=1A) CH4 : AC Input Voltage



INPUT=115VAC/50HZ @ FULL LOAD
CH2 : Input current (1V=1A) CH4 : AC Input Voltage



| | | | | |
|---|-----------------|-------|---|-------|
| 7 | EFFICIENCY(Typ) | 87.5% | I/P:230 VAC O/P:FULL LOAD Ta:25°C | 87.8% |
|---|-----------------|-------|---|-------|



PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|-----------------------------|--|--|---|
| 1 | OVER LOAD PROTECTION | 110 %~ 140 % | I/P: 230VAC I/P: 115VAC O/P: TESTING Ta: 25°C | 125.88%/ 230VAC 125.35%/115VAC Hiccup mode, recovers automatically after fault condition is removed |
| 2 | OVER VOLTAGE PROTECTION | CH: 13.8V~16.2V | 15.0V/ 230VAC 14.9V/115VAC O/P: MIN LOAD Ta: 25°C | Hiccup mode, recovers automatically after fault condition is removed |
| 3 | OVER TEMPERATURE PROTECTION | NO DAMAGE | I/P: 230 VAC O/P: FULL LOAD | O.T.P. Active Hiccup mode, recovers automatically after fault condition is removed |
| 4 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P: 264VAC 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 Transistor (D to S) or (C to E) Peak Voltage | Q 1 Rated 15A/650V | I/P:High-Line +3V =267V O/P: (1)Full Load Turn on (2)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (3)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz Ta:25°C | (1)392V (2)380V (3)375V |
| 2 | Diode Peak Voltage | Q102 Rated 20 A/100V Q103 Rated 20A/100V | I/P:High-Line +3V =267 V O/P: (1)Full Load input on/off (2)Output Short Ta:25°C | Q102: (1)91.2V (2)91.6V Q103: (1)82.0V (2)80.4V |
| 3 | Input Capacitor Voltage | C5 Rated: 330 μ / 200V | I/P:High-Line +3V =267 V O/P: (1)Full Load input on/off (2) Min load input on /Off (3)Full Load /Min load Change Ta:25°C | (1)188V (2)188V (3)187V |
| 4 | Control IC Voltage Test | PWM IC U1 Rated 28 V (MAX.) 10V (MIN.) | I/P:High-Line +3V =267 V O/P: (1)Full Load input on/off (2) Output short (3)No load VR (min) Ta:25°C | U1 (1) 19.9V (2) 19.9V (3) 19.9V |

SAFETY TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|----------------------|---|---|--|
| 1 | WITHSTAND VOLTAGE | I/P-O/P: 3.75 KVAC/min I/P-FG :2KVAC/min O/P-FG:0.5KVAC/min | I/P-O/P: 4.125 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:0.6 KVAC/min Ta:25°C | I I/P-O/P: 2.52mA I/P-FG: 3.30mA O/P-FG:2.68 m A NO DAMAGE |
| 2 | ISOLATION RESISTANCE | I/P-O/P:500VDC>100M Ω I/P-FG: 500VDC>100M Ω O/P-FG:500VDC>100M Ω | I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C | I/P-O/P: 9999M Ω I/P-FG: 9999M Ω O/P-FG: 9999M Ω NO DAMAGE |
| 3 | GROUNDING CONTINUITY | FG(PE) TO CHASSIS OR TRACE < 100 m Ω | 40A / 2min Ta:25°C | 20 m Ω |

E.M.C TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT |
|----|---|---|--|-------------------------------|
| 1 | CONDUCTION | EN55032 CLASS A | I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C | PASS Test by certified Lab |
| 2 | RADIATION | EN55032 CLASS A | I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C | PASS Test by certified Lab |
| 3 | 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 |
| 4 | E.F.T | EN61000-4-4 INDUSTRY INPUT : 2KV | I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C | CRITERIA A |
| 5 | 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 |
| 6 | 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: LRS-200-5 1. ROOM AMBIENT BURN-IN: 2 HRS I/P: 230VAC O/P: FULL LOAD Ta=24.7°C 2. HIGH AMBIENT BURN-IN: 2 HRS I/P: 230VAC O/P: FULL LOAD Ta=40.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | <table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta= 24.7 °C</th> <th>HIGH AMBIENT Ta=40.1 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>U1</td><td>63.9°C</td><td>76.7°C</td></tr> <tr><td>2</td><td>U100</td><td>71.1°C</td><td>82.8°C</td></tr> <tr><td>3</td><td>LF1</td><td>55.4°C</td><td>69.6°C</td></tr> <tr><td>4</td><td>BD1</td><td>59.2°C</td><td>72.1°C</td></tr> <tr><td>5</td><td>ZNR5</td><td>59.0°C</td><td>73.0°C</td></tr> <tr><td>6</td><td>C5</td><td>59.2°C</td><td>73.3°C</td></tr> <tr><td>7</td><td>C6</td><td>57.7°C</td><td>71.9°C</td></tr> <tr><td>8</td><td>T2</td><td>62.2°C</td><td>76.2°C</td></tr> <tr><td>9</td><td>Q1</td><td>66.7°C</td><td>82.4°C</td></tr> <tr><td>10</td><td>Q2</td><td>66.9°C</td><td>82.6°C</td></tr> <tr><td>11</td><td>D11</td><td>63.2°C</td><td>77.8°C</td></tr> <tr><td>12</td><td>D10</td><td>65.3°C</td><td>82.2°C</td></tr> <tr><td>13</td><td>T1coil</td><td>95.4°C</td><td>109.3°C</td></tr> <tr><td>14</td><td>T1core</td><td>78.2°C</td><td>91.8°C</td></tr> <tr><td>15</td><td>C36</td><td>61.7°C</td><td>76.6°C</td></tr> <tr><td>16</td><td>RTH3</td><td>88.5°C</td><td>102.7°C</td></tr> <tr><td>17</td><td>L100</td><td>90.2°C</td><td>104.4°C</td></tr> <tr><td>18</td><td>C106</td><td>79.7°C</td><td>95.5°C</td></tr> <tr><td>19</td><td>C201</td><td>67.8°C</td><td>80.2°C</td></tr> <tr><td>20</td><td>L101</td><td>77.6°C</td><td>89.7°C</td></tr> <tr><td>21</td><td>Q101</td><td>77.2°C</td><td>91.9°C</td></tr> <tr><td>22</td><td>Q103</td><td>69.3°C</td><td>83.5°C</td></tr> <tr><td>23</td><td>Q104</td><td>64.7°C</td><td>78.9°C</td></tr> </tbody> </table> | NO | Position | ROOM AMBIENT Ta= 24.7 °C | HIGH AMBIENT Ta=40.1 °C | 1 | U1 | 63.9°C | 76.7°C | 2 | U100 | 71.1°C | 82.8°C | 3 | LF1 | 55.4°C | 69.6°C | 4 | BD1 | 59.2°C | 72.1°C | 5 | ZNR5 | 59.0°C | 73.0°C | 6 | C5 | 59.2°C | 73.3°C | 7 | C6 | 57.7°C | 71.9°C | 8 | T2 | 62.2°C | 76.2°C | 9 | Q1 | 66.7°C | 82.4°C | 10 | Q2 | 66.9°C | 82.6°C | 11 | D11 | 63.2°C | 77.8°C | 12 | D10 | 65.3°C | 82.2°C | 13 | T1coil | 95.4°C | 109.3°C | 14 | T1core | 78.2°C | 91.8°C | 15 | C36 | 61.7°C | 76.6°C | 16 | RTH3 | 88.5°C | 102.7°C | 17 | L100 | 90.2°C | 104.4°C | 18 | C106 | 79.7°C | 95.5°C | 19 | C201 | 67.8°C | 80.2°C | 20 | L101 | 77.6°C | 89.7°C | 21 | Q101 | 77.2°C | 91.9°C | 22 | Q103 | 69.3°C | 83.5°C | 23 | Q104 | 64.7°C | 78.9°C |
| NO | Position | ROOM AMBIENT Ta= 24.7 °C | HIGH AMBIENT Ta=40.1 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | U1 | 63.9°C | 76.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | U100 | 71.1°C | 82.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | LF1 | 55.4°C | 69.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | BD1 | 59.2°C | 72.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | ZNR5 | 59.0°C | 73.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | C5 | 59.2°C | 73.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | C6 | 57.7°C | 71.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | T2 | 62.2°C | 76.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Q1 | 66.7°C | 82.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Q2 | 66.9°C | 82.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | D11 | 63.2°C | 77.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | D10 | 65.3°C | 82.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | T1coil | 95.4°C | 109.3°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | T1core | 78.2°C | 91.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | C36 | 61.7°C | 76.6°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | RTH3 | 88.5°C | 102.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | L100 | 90.2°C | 104.4°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | C106 | 79.7°C | 95.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | C201 | 67.8°C | 80.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | L101 | 77.6°C | 89.7°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Q101 | 77.2°C | 91.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | Q103 | 69.3°C | 83.5°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Q104 | 64.7°C | 78.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | OVER LOAD BURN-IN TEST | NO DAMAGE 1 HOUR (MIN) | I/P: 230 VAC O/P: 125% LOAD Ta: 25°C | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOUR | I/P: 264VAC/100VAC 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 CONTROL 50 °C NO DAMAGE | I/P: 272 VAC O/P: FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H | TEST: OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | TEMPERATURE COEFFICIENT | ± 0.03 %/°C (0~50°C) | I/P: 230 VAC O/P: FULL LOAD | ±0.008%/°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 : 5 CYCLE 5. Input/Output condition : STATIC | | OK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



200W Single Output Switching Power Supply

LRS-200 series

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| 7 | THERMAL SHOCK TEST | 1. Thermal shock Temperature : -25°C ~ 70°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 |
| 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: 60min in each axis (X.Y.Z) (6) Ta: 25°C | TEST: OK |
| 9 | CAPACITOR LIFE CYCLE | SUPPOSE C106 IS THE MOST CRITICAL COMPONENT (1) I/P: 230VAC O/P: FULL LOAD Ta= 25 °C LIFE TIME (2) I/P: 230VAC O/P: FULL LOAD Ta=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) 65146HRS (2) 22444HRS (3) 81836HRS (4) 207180HRS |
| 10 | MTBF | 2346.6K hrs min. Telcordia SR-332 (Bellcore) ; 279.4Khrs min. MIL-HDBK-217F (25°C) | |
| 11 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure (Expected Life): Above 30,000 hours @ TA 50°C | |

| TEST RESULT | TESTER | APPROVAL |
|-------------|--------|----------|
| PASS | FRANK | WANGDZ |