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Quality Engineering Test Report

SERIES: DR-75 75W AC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

**SAMPLE: A. DR-75-12 12V / 6.3A
 B. DR-75-24 24V / 3.2A
 C. DR-75-48 48V / 1.6A**

| NO | TEST ITEM | TEST CONDITION / SPECIFICATION | RESULT | VERDICT |
|----|--------------------------------|---|---|---------|
| 1 | AC INPUT VOLTAGE RANGE | I/P:TESTING SPEC:85~264VAC O/P:FULL LOAD | A : 65.812VAC~264VAC | P |
| 2 | LINE REGULATION | I/P:85~264VAC SPEC: A: ±0.5% O/P:FULL LOAD B: ±0.5% C: ±0.5% | A: -0.049% +0.00% B: -0.049% +0.00% C: +0.012% +0.012% | P |
| 3 | LOAD REGULATION | I/P:230VAC SPEC: A: ±1% O/P:MIN. TO FULL LOAD B: ±1% C: ±1% | A: -0.148% +0.098% B: -0.024% +0.00% C: -0.09% +0.09% | P |
| 4 | OUTPUT VOLTAGE TOLERANCE | I/P:85~264VAC SPEC: A: ±2% O/P:MIN TO FULL LOAD B: ±1% C: ±1% | A: -0.049% -0.255% B: -0.024% +0.024% C: +0.012% +0.2% | P |
| 5 | RIPPLE&NOISE | I/P:230VAC SPEC: A: 100mV O/P:FULL LOAD B: 150mV C: 240mV | A:5mV B:8mV C:49mV | P |
| 6 | AC INPUT CURRENT | I/P:230VAC SPEC: 1.2A O/P:FULL LOAD | A :0.922A B :0.81A C :0.826 A | P |
| 7 | MAX. INRUSH CURREN | I/P:230VAC SPEC: 60A O/P: FULL LOAD | A: 37.54A B: 34A C:33.289A | P |
| 8 | O/P VOLTAGE ADJ.RANGE | I/P:230VAC SPEC: A:12V~14V O/P:MIN. LOAD B: 24V~28V C: 48V~53V | A:10.5V~14.9V B:20.021V~29.123V C:46.01V~60.03V | P |
| 9 | SET UP TIME | I/P:230VAC SPEC:1000mS O/P:FULL LOAD | A: 596.7mS B: 598mS C: 613.6mS | P |
| 10 | HOLD UP TIME | I/P:230VAC SPEC:50mS O/P:FULL LOAD | A: 73.218mS B: 78mS C: 75.86mS | P |
| 11 | EFFICIENCY | I/P:230VAC SPEC: A:76% O/P:FULL LOAD B:80% C:81% | A:77.39% B:81.823% C:83.006% | P |
| 12 | OVER LOAD PROTECTION | O/P:TESTING SPEC: 105%~150% | A:137% B:131% C:131% | P |
| 13 | GROUND LEAKAGE CURRENT | I/P:240VAC SPEC: L-FG-<1mA N-FG-<1mA | A: L-FG:0.82mA N-FG:0.81mA | P |
| 14 | INSULATION RESISTANCE | SPEC: I/P-O/P: 500VDC/100M Ohms MIN. I/P-FG : 500VDC/100M Ohms MIN. O/P-FG: 500VDC/100M Ohms MIN. | A: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms B: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms C: O/P-FG >100M Ohms I/P-O/P >100M Ohms I/P-FG >100M Ohms | P |
| 15 | DIELECTRIC / WITHSTAND VOLTAGE | SPEC: I/P- O/P: 3KVAC/ 1 min. I/P - FG: 1.5KVAC/ 1 min. O/P -FG: 0.5KVAC/ 1 min. | A: I/P-O/P :5.6mA I/P-FG :3.8mA O/P-FG :3.4mA B: I/P-O/P :5.6mA I/P-FG :3.8mA O/P-FG :3.4mA C: I/P-O/P :3.287mA I/P-FG :2.68mA O/P-FG :7.18mA | P |
| 16 | BURN-IN TEST | I/P: 230VAC O/P: FULL LOAD TA:26.8°C BURN-IN DURATION : 2 hrs | A : NON BREAK | P |

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|----------|---|---|--|----------|-----|------|--------|-----|--------------|--------|--------|----|-----------------|--------|--------|----|-----------------------|--------|--------|-----|-----------|--------|--------|-----|----------------------|--------|--------|----|----------------------|--------|--------|-----|----------------------------|--------|--------|---|
| 17 | ENVIRONMENT TEST | 1.LOW TEMPERATURE TEST I/P:230 VAC O/P:100% LOAD AMBIENT TEMPERATURE :-9.9°C | A: AFTER 14 hrs POWER ON OK | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE :50.1°C | A: AFTER 3 hrs NON BREAK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST I/P:264VAC O/P:FULL LOAD AMBIENT TEMPERATURE : 25°C AMBIENT HUMIDITY : 95% | A : AFTER18 hrs POWER ON/OFFNON BREAK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | TEMPERATURE RISE TEST T rise OF PARTS | D: I/P :230VAC O/P :FULL LOAD AFTER 2 hr BURN-IN TA:26.8°C | <table border="1"> <thead> <tr> <th>POSITION</th> <th>P/N</th> <th>TEMP</th> <th>T rise</th> </tr> </thead> <tbody> <tr> <td>BD1</td> <td>BRIDGE DIODE</td> <td>56.6°C</td> <td>29.8°C</td> </tr> <tr> <td>U1</td> <td>MAIN TRANSISTOR</td> <td>64.7°C</td> <td>37.9°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER WIRE</td> <td>75.7°C</td> <td>48.9°C</td> </tr> <tr> <td>D20</td> <td>O/P DIODE</td> <td>78.9°C</td> <td>52.1°C</td> </tr> <tr> <td>C25</td> <td>O/P FILTER CAPACITOR</td> <td>74.8°C</td> <td>48.0°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>54.8°C</td> <td>28.0°C</td> </tr> <tr> <td>LF1</td> <td>LINE FILTER TRANSFORMER</td> <td>61.0°C</td> <td>34.2°C</td> </tr> </tbody> </table> | POSITION | P/N | TEMP | T rise | BD1 | BRIDGE DIODE | 56.6°C | 29.8°C | U1 | MAIN TRANSISTOR | 64.7°C | 37.9°C | T1 | MAIN TRANSFORMER WIRE | 75.7°C | 48.9°C | D20 | O/P DIODE | 78.9°C | 52.1°C | C25 | O/P FILTER CAPACITOR | 74.8°C | 48.0°C | C5 | I/P FILTER CAPACITOR | 54.8°C | 28.0°C | LF1 | LINE FILTER TRANSFORMER | 61.0°C | 34.2°C | P |
| POSITION | P/N | TEMP | T rise | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BD1 | BRIDGE DIODE | 56.6°C | 29.8°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| T1 | MAIN TRANSFORMER WIRE | 75.7°C | 48.9°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D20 | O/P DIODE | 78.9°C | 52.1°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C25 | O/P FILTER CAPACITOR | 74.8°C | 48.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C5 | I/P FILTER CAPACITOR | 54.8°C | 28.0°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LF1 | LINE FILTER TRANSFORMER | 61.0°C | 34.2°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | LIFE CYCLE | D: SUPPOSE C25 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc25:74.8°C Life: 32615.3 hrs I/P:230VAC O/P:FULL LOAD Ta:45°C Tc45:92.2°C Life:12279.5 hrs | | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY) | D: FUSE : 3AL/250V BRIDGE DIODE : D3SB60 4A/800V LINE FILTER : TF-484 TRANSFORMER : TF659 POWER SWITCHER : TOP-227 OUTPUT DIODE : BYQ-28X-200 OUTPUT CAPACITOR : 330uF/35V(v) 105°C ELNA LXJ INPUT CAPACITOR : RUBYCON 100uF/400V 105°C P.C.B : DR-75-R2 CEM-3 20 OZ SS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DATE | SAMPLE | TEST RESULT | TEST | APPROVAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20020304 | RD SAMPLE 12V,24V,48V | PASS | VINCENT | MAX.LIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20020531 | PRODUCT SAMPLE A202B01 12V,24V,48V | PASS | VINCENT | MAX.LIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20020827 | PRODUCT SAMPLE A205D01 12V,24V | PASS | VINCENT | MAX.LIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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