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% B: ±0.5% O/P:FULL LOAD 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% B: ±1% O/P:MIN. TO FULL LOAD 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% B: ±1% O/P:MIN TO FULL LOAD 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 B: 150mV O/P:FULL LOAD 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% B:80% O/P:FULL LOAD C:81%	A:77.39% B:81.823% C:83.006%	P
12	OVER LOAD PROTECTION	SPEC: 105%~150% O/P:TESTING	A137% 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:26.8ºC BURN-IN DURATION : 2 hrs	A : NON BREAK	P

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td rowspan="3">17</td><td rowspan="3">ENVIRONMENT TEST</td><td>1.LOW TEMPERATURE TEST
I/P:230 VAC O/P:100% LOAD
AMBIENT TEMPERATURE:-9.9ºC</td><td>A:
AFTER 14 hrs POWER ON OK</td><td rowspan="3">P</td></tr>
<tr><td>2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:50.1ºC</td><td>A:
AFTER 3 hrs NON BREAK</td></tr>
<tr><td>3.HIGH HUMIDITY HIGH VOLTAGE ON/OFF TEST
I/P:264VAC O/P:FULL LOAD
AMBIENT TEMPERATURE：25ºC
AMBIENT HUMIDITY：95%</td><td>A :
AFTER18 hrs POWER
ON/OFFNON BREAK</td></tr>
<tr><td>18</td><td>TEMPERATURE RISE
TEST T rise OF PARTS</td><td colspan="2">D: I/P :230VAC AFTER 2 hr BURN-IN
O/P :FULL LOAD TA:26.8ºC
<table>
<tr><th></th><th>POSITION</th><th>P/N</th><th>TEMP</th><th>T rise</th></tr>
<tr><td></td><td>BD1</td><td>BRIDGE DIODE</td><td>56.6ºC</td><td>29.8ºC</td></tr>
<tr><td></td><td>U1</td><td>MAIN TRANSISTOR</td><td>64.7ºC</td><td>37.9ºC</td></tr>
<tr><td></td><td>T1</td><td>MAIN TRANSFORMER WIRE</td><td>75.7ºC</td><td>48.9ºC</td></tr>
<tr><td></td><td>D20</td><td>O/P DIODE</td><td>78.9ºC</td><td>52.1ºC</td></tr>
<tr><td></td><td>C25</td><td>O/P FILTER CAPACITOR</td><td>74.8ºC</td><td>48.0ºC</td></tr>
<tr><td></td><td>C5</td><td>I/P FILTER CAPACITOR</td><td>54.8ºC</td><td>28.0ºC</td></tr>
<tr><td></td><td>LF1</td><td>LINE FILTER TRANSFORMER</td><td>61.0ºC</td><td>34.2ºC</td></tr>
</table></td><td>P</td></tr>
<tr><td>19</td><td>LIFE CYCLE</td><td colspan="2">D: SUPPOSE C25 IS THE MOST CRITICAL COMPONENT
I/P:230VAC O/P:FULL LOAD Ta:25ºC Tc25:74.8ºC Life: 32615.3 hrs
I/P:230VAC O/P:FULL LOAD Ta:45ºC Tc45:92.2ºC Life:12279.5 hrs</td><td>P</td></tr>
<tr><td>20</td><td>CRITICAL COMPONENT RECORD
(FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">D:
FUSE : 3AL/250V
BRIDGE DIODE : D3SB60 4A/800V
LINE FILTER : TF-484
TRANSFOMER : TF659
POWER SWITCHER : TOP-227
OUTPUT DIODE : BYQ-28X-200
OUTPUT CAPACITOR : 330uF/35V(v) 105ºC ELNA LXJ
INPUT CAPACITOR : RUBYCON 100uF/400V 105ºC
P.C.B : DR-75-R2 CEM-3 20 OZ SS</td></tr>
</table>

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