

# Quality Engineering Test Report

**SERIES: SD-100C**

**100W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY**

**SAMPLE:**

**A. SD-100C-5 5V / 20A**

**B. SD-100C-12 12V / 8.5A**

**C. SD-100C-24 24V / 4.2A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 36~72VDC O/P : FULL LOAD	B:28~72VDC	P
2	LINE REGULATION	I/P : 36~72VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3% C:±0.2%	A:0%~+0% B: 0%~+0 % C: 0%~+0%	P
3	LOAD REGULATION	I/P : 48VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3% C:±0.2%	A:-0.24%~+0.24% B: -0.10%~+0.15% C: -0.02%~+0.02%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 36~72VDC SPEC : A:±2% O/P : MIN. TO FULL LOAD B:±1% C:±1%	A:-0 %~+1.7% B:-0.21%~+0.05% C:-0.08%~+0 %	P
5	RIPPLE&NOISE	I/P : 48VDC SPEC : A:100mVp-p O/P : FULL LOAD B:120mVp-p C:150mVp-p	A: 8mV B: 17mV C: 14mV	P
6	DC INPUT CURRENT	I/P : 48VDC SPEC : 3A O/P : FULL LOAD	B: 2.62A	P
7	O/P VOLTAGE ADJ. RANGE	I/P : 48VDC SPEC : A:4.5~5.5V O/P : MIN. LOAD B:11~16V C:23~30V	A:4.42~6.19V B:9.38~16.40V C:22.05~32.95V	P
8	SET UP TIME	I/P : 48VDC SPEC : 2S O/P : FULL LOAD	B:1.8S	P
9	EFFICIENCY	I/P : 48VDC SPEC : A:75% O/P : FULL LOAD B:77% C:81%	A:79.0% B:81.0% C:84.7%	P
10	OVER LOAD PROTECTION	I/P : 48VDC SPEC : 105%~135% O/P : TESTING	A:125% B:116.8% C:126.4%	P
11	OVER VOLTAGE PROTECTION	I/P : 48VDC SPEC : A:5.75V~6.75V O/P : 10% LOAD B:16.8V~20V C:31.5V~37.5V	A:6.45V B:17.5 V C:33.89V	P
12	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.	B: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P

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13	DIELECTRIC / WITHSTAND VOLTAGE	SPEC : I/P-O/P : 1500VAC/ 1 min (10mA CUT-OFF). I/P-FG : 1500VAC/ 1 min (10mA CUT-OFF) O/P-FG : 500VAC/ 1 min (10mA CUT-OFF)	B: I/P-O/P : <2.59mA I/P-FG : <3.15mA O/P-FG : <3.06mA	P																											
14	BURN-IN TEST	I/P : 48VDC O/P:FULL LOAD TA : 24.5°C BURN-IN DURATION : 4 hrs	B:NON BREAK	P																											
15	ENVIRONMENT TEST (SAMPLE A:	B:HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 48VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 40°C	B:AFTER 4 hrs NON BREAK	P																											
16	TEMPERATURE RISE TEST T rise OF PARTS	B: I/P : 48VDC AFTER 4 hr BURN-IN O/P : FULL LOAD TA : 24.5°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>Q1</td> <td>MAIN TRANSISTOR</td> <td>82.1°C</td> <td>57.6°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>78.2°C</td> <td>53.7°C</td> </tr> <tr> <td>D11</td> <td>O/P DIODE</td> <td>72.5°C</td> <td>48.0°C</td> </tr> <tr> <td>C33</td> <td>O/P FILTER CAPACITOR</td> <td>59.7°C</td> <td>35.2°C</td> </tr> <tr> <td>L1</td> <td>O/P CHOCK</td> <td>71.8°C</td> <td>47.3°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>45.2°C</td> <td>20.7°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	Q1	MAIN TRANSISTOR	82.1°C	57.6°C	T1	MAIN TRANSFORMER	78.2°C	53.7°C	D11	O/P DIODE	72.5°C	48.0°C	C33	O/P FILTER CAPACITOR	59.7°C	35.2°C	L1	O/P CHOCK	71.8°C	47.3°C	C5	I/P FILTER CAPACITOR	45.2°C	20.7°C	P
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17	LIFE CYCLE	B: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT I/P : 48VDC O/P : FULL LOAD Ta : 25°C Tc33 : 60.2°C Life: 24250 hrs I/P : 48VDC O/P : FULL LOAD Ta : 40°C Tc33 : 79.2°C Life: 6497hrs		P																											
18	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	B: FUSE : 5AL/250V 5x20 G INPUT DIODE : 1N5401 LINE FILTER : LF TF-096B EE-25 TRANSFORMER : MT TF-312-R1 EER-28L POWER SWITCHER : TRFP250 TO-3P OUTPUT DIODE : D9202 TO-3P OUTPUT CAPACITOR : 1000uF/25V(v) 105°C HL INPUT CAPACITOR : 220uF/100V(v) HL 105°C P.C.B : SD-100N-R2 FR-4 2 OZ DS																													
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																											
980703	SD-100C	PASS	H.C.LIOU	Max Lin																											