

Quality Engineering Test Report

SERIES: SD-100B 100W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A. SD-100B-5 5V / 20A
B. SD-100B-12 12V / 8.5A
C. SD-100B-24 24V / 4.2A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 19~36VDC O/P : FULL LOAD	A:17.2~36VDC	P
2	LINE REGULATION	I/P : 19~36VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3% C:±0.2%	A:-0.14%~+0% B: -0%~+0.03% C -0.03%~+0%	P
3	LOAD REGULATION	I/P : 24VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3% C:±0.2%	A:-0.12%~+0.12% B: -0%~+0.05% C: -0%~+0.05%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 19~36VDC SPEC : A:±2% O/P : MIN. TO FULL LOAD B:±1% C:±1%	A:-0.14%~+0.24% B: -0%~+0.2% C:-0.03%~+0.05%	P
5	RIPPLE&NOISE	I/P : 24VDC SPEC : A:100mVp-p O/P : FULL LOAD B:120mVp-p C:150mVp-p	A: 22mV B: 18mV C: 7mV	P
6	DC INPUT CURRENT	I/P : 24VDC SPEC : 6A O/P : FULL LOAD	A: 5.49A	P
7	MAX. INRUSH CURRENT	I/P : 24VDC SPEC : NONE O/P : FULL LOAD	A:45.7A	P
8	O/P VOLTAGE ADJ. RANGE	I/P : 24VDC SPEC : A:4.5~5.5V O/P : MIN. LOAD B:11~16V C:23~30V	A:4.36~6.22V B:9.27~16.44V C:22.40~33.12V	P
9	SET UP TIME	I/P : 24VDC SPEC : 2S O/P : FULL LOAD	A:1826.2mS	P
10	EFFICIENCY	I/P : 24VDC SPEC : A:74% O/P : FULL LOAD B:75% C:78%	A:74.7% B:76.1% C:80.3%	P
11	OVER LOAD PROTECTION	I/P : 24VDC SPEC : 105%~135% O/P : TESTING	A:125% B:116.8% C:128.8%	P
12	OVER VOLTAGE PROTECTION	I/P : 24VDC SPEC : A:5.75V~6.75V O/P : 10% LOAD B:16.8V~20V C:31.5V~37.5V	A:6.35V B:17.51V C:34.82V	P
13	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: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P
14	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)	A: I/P-O/P : <3.49mA I/P-FG : <4.46mA O/P-FG : <3.21mA	P
15	BURN-IN TEST	I/P : 24VDC O/P:FULL LOAD TA : 22.4°C BURN-IN DURATION : 1 hrs	NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	1.LOW TEMPERATURE TEST I/P : 17.7 VDC O/P : FULL LOAD AMBIENT TEMPERATURE : -10°C	AFTER 1.5 hrs POWER ON OK	P
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 24VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 40°C	AFTER 1 hrs NON BREAK	

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																												
17	TEMPERATURE RISE TEST T rise OF PARTS	<p>A: I/P : 24VDC AFTER 1 hr BURN-IN O/P : FULL LOAD TA : 22.4C</p> <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>88.9°C</td> <td>66.5°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>84.8°C</td> <td>62.4°C</td> </tr> <tr> <td>D11</td> <td>O/P DIODE</td> <td>82.6°C</td> <td>60.2°C</td> </tr> <tr> <td>C33</td> <td>O/P FILTER CAPACITOR</td> <td>68.0°C</td> <td>45.6°C</td> </tr> <tr> <td>L1</td> <td>O/P CHOCK</td> <td>86.4°C</td> <td>64.0°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>48.1°C</td> <td>25.7°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	Q1	MAIN TRANSISTOR	88.9°C	66.5°C	T1	MAIN TRANSFORMER	84.8°C	62.4°C	D11	O/P DIODE	82.6°C	60.2°C	C33	O/P FILTER CAPACITOR	68.0°C	45.6°C	L1	O/P CHOCK	86.4°C	64.0°C	C5	I/P FILTER CAPACITOR	48.1°C	25.7°C		P
POSITION	P/N	TEMP	T rise																													
Q1	MAIN TRANSISTOR	88.9°C	66.5°C																													
T1	MAIN TRANSFORMER	84.8°C	62.4°C																													
D11	O/P DIODE	82.6°C	60.2°C																													
C33	O/P FILTER CAPACITOR	68.0°C	45.6°C																													
L1	O/P CHOCK	86.4°C	64.0°C																													
C5	I/P FILTER CAPACITOR	48.1°C	25.7°C																													
18	LIFE CYCLE	<p>A: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT I/P : 24VDC O/P : FULL LOAD Ta : 25°C Tc33 : 68.0°C Life: 22110 hrs I/P : 24VDC O/P : FULL LOAD Ta : 40°C Tc33 : 76.0°C Life: 12699 hrs</p>		P																												
19	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	<p>A: FUSE : F 10AL/250V 5x20 G UL INPUT DIODE : 1N5401 LINE FILTER : LF TF-096A EE-25 TRANSFOMER : MT TF-308-R1 EER-28L POWER SWITCHER : 2SK850 TO-3P OUTPUT DIODE : CTB-34M TO-3P OUTPUT CAPACITOR : 2200uF/16V(v) 105°C HL INPUT CAPACITOR : N.C.C 330uF/100V KMF 105°C P.C.B : SD-100N-R2 FR-4 2 OZ DS</p>																														
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																												
980423	SD-100B	PASS	H.C.LIOU	Max Lin																												