

# Quality Engineering Test Report

**SERIES: SD-25C 25W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY**

**SAMPLE:                   A. SD-25C-5   5V / 5A**  
**B. SD-25C-12  12V / 2.1A**  
**C. SD-25C-24  24V / 1.1A**

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING           SPEC : 36~72VDC O/P : FULL LOAD	A: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%~+0.12% B:-0%~+0.05% C:-0%~+0%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 36~72VDC       SPEC : A:±2% O/P : MIN. TO FULL LOAD   B:±1% C:±1%	A: -0.14%~+0.12% B: -0%~+0.05% C: -0%~+0%	P
5	RIPPLE&NOISE	I/P : 48VDC           SPEC : A:100mVp-p O/P : FULL LOAD       B:120mVp-p C:150mVp-p	A:23mV B:13mV C: 9mV	P
6	DC INPUT CURRENT	I/P : 48VDC           SPEC : 0.8A O/P : FULL LOAD	A:0.65A	P
7	MAX. INRUSH CURRENT	I/P : 48VDC           SPEC : NONE O/P : FULL LOAD	A:47.4A	P
8	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:4.40~6.21V B:9.6~16.31V C:19.52~33.8V	P
9	SET UP TIME	I/P : 48VDC           SPEC : 2.5S O/P : FULL LOAD	A:2395.4mS	P
10	EFFICIENCY	I/P : 48VDC           SPEC : A:74% O/P : FULL LOAD       B:78% C:81%	A:78.47% B:80.6% C:83.0%	P
11	OVER LOAD PROTECTION	I/P : 48VDC           SPEC : 105%~150% O/P : TESTING	A:107.0% B:126.4% C:127.7%	P
12	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:6.38V B:18.27V C:32.95V	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 : <2.2mA I/P-FG : <2.3mA O/P-FG : <2.57mA	P
15	BURN-IN TEST	I/P : 48VDC           O/P:FULL LOAD TA : 25 °C            BURN-IN DURATION : 4 hrs	NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 48VDC           O/P : FULL LOAD AMBIENT TEMPERATURE : 42.0°C	AFTER 13 hrs NON BREAK	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																												
17	TEMPERATURE RISE TEST T rise OF PARTS	<p>A: I/P : 48VDC AFTER 4 hr BURN-IN O/P : FULL LOAD TA : 25°C</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>50.5°C</td> <td>25.5°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>65.9°C</td> <td>40.9°C</td> </tr> <tr> <td>D11</td> <td>O/P DIODE</td> <td>76.7°C</td> <td>51.7°C</td> </tr> <tr> <td>C33</td> <td>O/P FILTER CAPACITOR</td> <td>42.5°C</td> <td>17.5°C</td> </tr> <tr> <td>L1</td> <td>O/P CHOCK</td> <td>59.6°C</td> <td>34.6°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>45.4°C</td> <td>20.4°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	Q1	MAIN TRANSISTOR	50.5°C	25.5°C	T1	MAIN TRANSFORMER	65.9°C	40.9°C	D11	O/P DIODE	76.7°C	51.7°C	C33	O/P FILTER CAPACITOR	42.5°C	17.5°C	L1	O/P CHOCK	59.6°C	34.6°C	C5	I/P FILTER CAPACITOR	45.4°C	20.4°C		P
POSITION	P/N	TEMP	T rise																													
Q1	MAIN TRANSISTOR	50.5°C	25.5°C																													
T1	MAIN TRANSFORMER	65.9°C	40.9°C																													
D11	O/P DIODE	76.7°C	51.7°C																													
C33	O/P FILTER CAPACITOR	42.5°C	17.5°C																													
L1	O/P CHOCK	59.6°C	34.6°C																													
C5	I/P FILTER CAPACITOR	45.4°C	20.4°C																													
18	LIFE CYCLE	<p>A: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT</p> <p>I/P : 48VDC O/P : FULL LOAD Ta : 25°C Tc33 : 42.5°C Life: 152218 hrs</p> <p>I/P : 48VDC O/P : FULL LOAD Ta : 42°C Tc33 : 61.5°C Life: 40785 hrs</p>		P																												
19	CRITICAL COMPONENT RECORD ( FOR QC INSPECTION REFERENCE ONLY )	<p>A: FUSE : 3A/250V 5x20</p> <p>INPUT DIODE : 1N5401</p> <p>LINE FILTER : LF TF-206-R1</p> <p>TRANSFOMER : MF TF-339-R1 EI-25</p> <p>POWER SWITCHER : F630</p> <p>OUTPUT DIODE : C82-004</p> <p>OUTPUT CAPACITOR : 2200uF/16V(v) 105°C HL</p> <p>INPUT CAPACITOR : N.C.C 330uF/100V KMF 105°C</p> <p>P.C.B : SD-25-R1 FR-4 2 OZ DS</p>																														
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																												
980422	SD-25C	PASS	H.C.LIOU	Max Lin																												