

Quality Engineering Test Report

SERIES: S-35 35W AC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A. S-35-5 5V / 7A
B. S-35-12 12V / 3A
C. S-35-15 15V / 2.4A
D. S-35-24 24V / 1.5A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:170~264VAC O/P:FULL LOAD	A : 108VAC~267VAC	P
2	LINE REGULATION	I/P:170~264VAC SPEC: A: ±0.5% B: ±0.5% C: ±0.5% D: ±0.5% O/P:FULL LOAD	A: +0.12%~ +0.12% B: 0%~ +0.05% C: -0.04%~ -0.04% D: 0%~ 0%	P
3	LOAD REGULATION	I/P:230VAC SPEC: A: ±1% B: ±0.5% C: ±0.5% D: ±0.5% O/P:MIN. TO FULL LOAD	A: -0.24%~ +0.12% B: -0.05%~ 0% C: 0%~ +0.04% D: -0.02%~ 0%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:170~264VAC SPEC: A: ±2% B: ±1% C: ±1% D: ±1% O/P:0% TO FULL LOAD	A: -0.26%~ 0% B: -0.05%~ +0.05% C: -0.04%~ +0.04% D: -0.03%~ -0.08%	P
5	RIPPLE&NOISE	I/P:230VAC SPEC: A: 75mV B: 100mV C: 100mV D: 100mV O/P:FULL LOAD	A:32mV B:19mV C:19mV D:14mV	P
6	AC INPUT CURRENT	I/P:230VAC SPEC: 0.45A O/P:FULL LOAD	A : 0.43A	P
7	MAX. INRUSH CURREN	I/P:230VAC SPEC: 36A O/P: FULL LOAD	A : 22A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: A: -5%~+10% B: ±10% C: ±10% D: ±10% O/P:MIN. LOAD	A:4.55V~5.80V B:9.83V~14.93V C:12.49V~17.34V D:20.51V~27V	P
9	SET UP TIME	I/P:230VAC SPEC:200mS O/P:FULL LOAD	A: 12mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:30mS O/P:FULL LOAD	A: 47mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:70% B:76% C:78% D:78% O/P:FULL LOAD	A:72% B:77.08% C:78.09% D:79.96%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC: 105%~150% O/P:TESTING	A:133.5% B:131% C:146.6% D:138.6%	P
13	GROUND LEAKAGE CURRENT	I/P:240VAC SPEC: L-FG--<0.5mA N-FG--<0.5mA	A: L-FG:1.69mA N-FG:1.69mA	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	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																															
15	DIELECTRIC / WITHSTAND VOLTAGE	SPEC: I/P- O/P: 1.5KVAC/ 1 min. (10mA CUT-OFF) I/P - FG: 1.5KVAC/ 1 min. (10mA CUT-OFF) O/P -FG: 0.5KVAC/ 1 min. (10mA CUT-OFF)	A: I/P-O/P :1.57mA I/P-FG :1.77mA O/P-FG :1.85mA	P																															
16	BURN-IN TEST	I/P: 230VAC O/P: FULL LOAD TA:25.2°C BURN-IN DURATION : 3 hrs	A : NON BREAK	P																															
17	ENVIRONMENT TEST	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P:230VAC O/P:FULL LOAD AMBIENT TEMPERATURE:40.4°C	A: AFTER 84.5 hrs NON BREAK	P																															
18	TEMPERATURE RISE TEST T rise OF PARTS	A: I/P :230VAC AFTER 1 hr BURN-IN O/P :FULL LOAD TA:25.2°C <table border="1" style="margin-left: auto; margin-right: auto;"> <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>61.4°C</td> <td>36.2°C</td> </tr> <tr> <td>Q1</td> <td>MAIN TRANSISTOR</td> <td>50.7°C</td> <td>25.5°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER WIRE</td> <td>85.9°C</td> <td>60.7°C</td> </tr> <tr> <td>* D6</td> <td>O/P DIODE</td> <td>107.8°C</td> <td>82.6°C</td> </tr> <tr> <td>C15</td> <td>O/P FILTER CAPACITOR</td> <td>73.8°C</td> <td>48.6°C</td> </tr> <tr> <td>C4</td> <td>I/P FILTER CAPACITOR</td> <td>50.1°C</td> <td>24.9°C</td> </tr> <tr> <td>LF1</td> <td>LINE FILTER TRANSFORMER</td> <td>45.8°C</td> <td>20.6°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	BD1	BRIDGE DIODE	61.4°C	36.2°C	Q1	MAIN TRANSISTOR	50.7°C	25.5°C	T1	MAIN TRANSFORMER WIRE	85.9°C	60.7°C	* D6	O/P DIODE	107.8°C	82.6°C	C15	O/P FILTER CAPACITOR	73.8°C	48.6°C	C4	I/P FILTER CAPACITOR	50.1°C	24.9°C	LF1	LINE FILTER TRANSFORMER	45.8°C	20.6°C	*NOTE1
POSITION	P/N	TEMP	T rise																																
BD1	BRIDGE DIODE	61.4°C	36.2°C																																
Q1	MAIN TRANSISTOR	50.7°C	25.5°C																																
T1	MAIN TRANSFORMER WIRE	85.9°C	60.7°C																																
* D6	O/P DIODE	107.8°C	82.6°C																																
C15	O/P FILTER CAPACITOR	73.8°C	48.6°C																																
C4	I/P FILTER CAPACITOR	50.1°C	24.9°C																																
LF1	LINE FILTER TRANSFORMER	45.8°C	20.6°C																																
19	LIFE CYCLE	A: SUPPOSE C15 IS THE MOST CRITICAL COMPONENT I/P:230VAC O/P:FULL LOAD Ta:25°C Tc15:73.6°C Life: 17630 hrs I/P:230VAC O/P:FULL LOAD Ta:40°C Tc15:88.3°C Life: 9000 hrs		P																															
20	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	A: FUSE : 3AL/250V BRIDGE DIODE : LTKBP208G LINE FILTER : 3104C TRANSFOMER : TF021N-R1 EER-28L POWER SWITCHER : 2SC3679 TO-3P OUTPUT DIODE : CTB-24L TO-220 OUTPUT CAPACITOR : 2200uF/16V(v) 105°C VENT INPUT CAPACITOR : JAMICONI 100uF/200V 85°C P.C.B : S-35S-R1 CEM-1 1 OZ SS																																	
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																															
980527	S-35	NOTE1:Working temperature $\geq 30^{\circ}\text{C}$ output should derating	H.C.LIOU	MAX LIN																															