

■ Features :

- 2:1 wide input range
- Protections: Short circuit / Overload / Over voltage
- 1500VDC I/O isolation
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- 24V and 48V input voltage design refer to LVD
- Low cost
- High reliability
- 2 years warranty

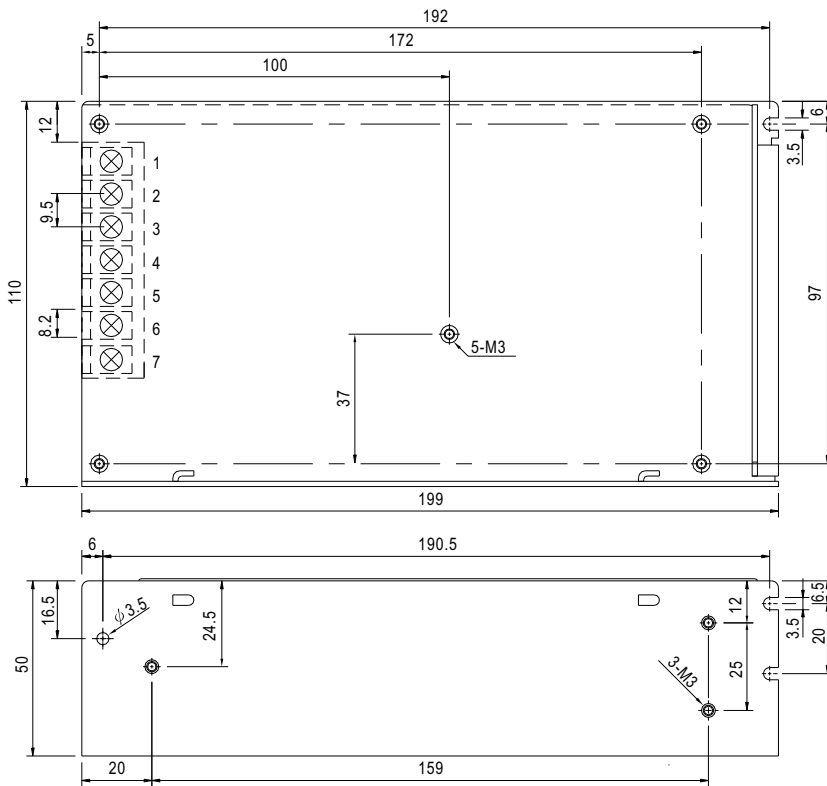
CB (for D type only) **CE**

SPECIFICATION

MODEL		SD-150B-12	SD-150C-12	SD-150D-12	SD-150B-24	SD-150C-24	SD-150D-24
OUTPUT	DC VOLTAGE	12V			24V		
	RATED CURRENT	12.5A			6.3A		
	CURRENT RANGE	0 ~ 12.5A			0 ~ 6.3A		
	RATED POWER	150W			151.2W		
	RIPPLE & NOISE (max.) Note.2	120mVp-p			150mVp-p		
	VOLTAGE ADJ. RANGE	11 ~ 16VDC			23 ~ 30VDC		
	VOLTAGE TOLERANCE Note.3	±1.0%			±1.0%		
	LINE REGULATION	±0.5%			±0.3%		
	LOAD REGULATION	±0.5%			±0.3%		
	SETUP, RISE TIME	2s, 50ms(only D mode) at full load					
HOLD UP TIME (Typ.)	24ms(only D mode) at full load						
INPUT	VOLTAGE RANGE	B:19 ~ 36VDC	C:36 ~ 72VDC	D:72 ~ 144VDC or 85 ~ 132VAC			
	EFFICIENCY (Typ.)	75%	77%	79%	77%	80%	82%
	DC CURRENT (Typ.)	6.8A/24V	3.4A/48V	2.7A/96V	6.8A/24V	3.4A/48V	2.7A/96V
	INRUSH CURRENT (Typ.)	D:22.5A/96VDC					
	LEAKAGE CURRENT	<0.75mA / 120VAC (SD-150D)					
PROTECTION	OVERLOAD	105 ~ 135% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	16.8V ~ 20V/10% LOAD			31.5 ~ 37.5V/10% LOAD		
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-20 ~ +85°C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 4)	SAFETY STANDARDS	IEC60950-1 CB approved by TUV (for D type only)					
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC					
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH					
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B					
OTHERS	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,6,8; ENV50204, light industry level, criteria A					
	MTBF	296.2K hrs min.(SD-150B)	289.9K hrs min.(SD-150C)	289K Hrs min.(SD-150D)	MIL-HDBK-217F (25°C)		
	DIMENSION	199*110*50mm (L*W*H)					
	PACKING	0.86Kg; 16pcs/14.5Kg/0.95CUFT					
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives. 						

Mechanical Specification

Case No. 906 Unit:mm



Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1,2	INPUT ※	4,5	DC OUTPUT -V
3	FG ≡	6,7	DC OUTPUT +V

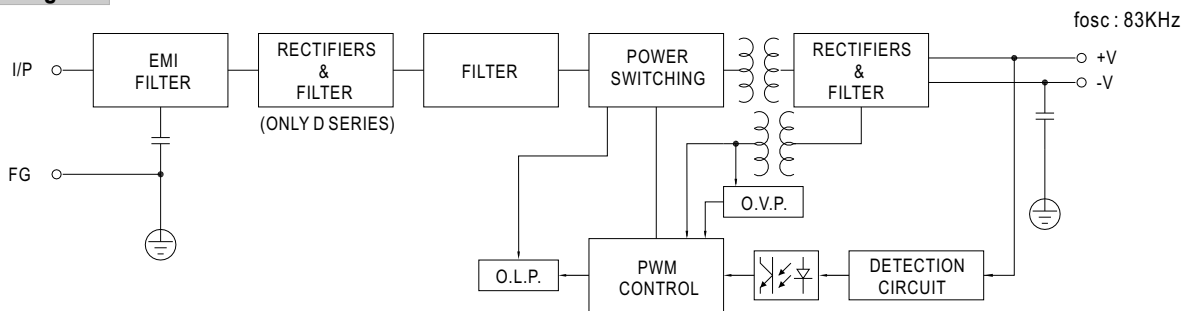
※ SD-150B,C

Pin No.	Assignment
1	DC INPUT V+
2	DC INPUT V-

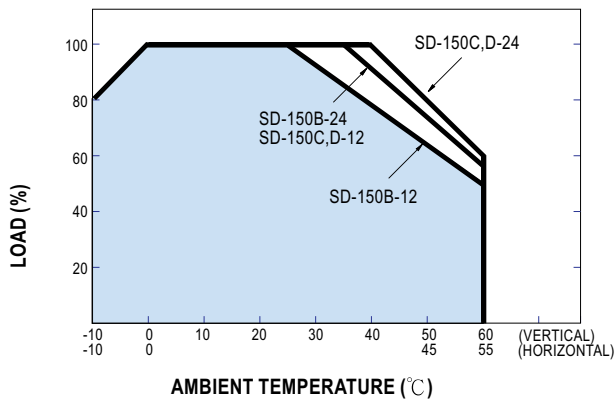
※ SD-150D

Pin No.	Assignment
1,2	AC/DC INPUT

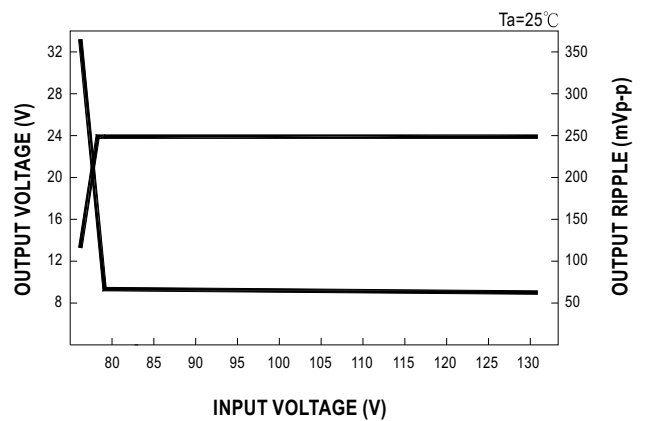
Block Diagram



Derating Curve



Static Characteristics (24V)



Quality Engineering Test Report

SERIES: SD-150D 150W AC&DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

SAMPLE: A. SD-150D-12 12V / 12.5A

B. SD-150D-24 24V / 6.3A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 85~132VAC (72VDC~144VDC) O/P : FULL LOAD	B: 53V~132VAC	P
2	LINE REGULATION	I/P : 85~132VAC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3%	A: -0.05%~-0.05% B: -0.02%~+0 %	P
3	LOAD REGULATION	I/P : 115VAC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3%	A: -0.15%~+0.15% B: :-0.02%~+0.07%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 85~132VAC SPEC : A:±1% O/P : MIN. TO FULL LOAD B:±1%	A: -0.56%~-0.05% B: :-0.08%~+0.03%	P
5	RIPPLE&NOISE	I/P : 115VAC SPEC : A:120mVp-p O/P : FULL LOAD B:150mVp-p	A: 32mV B: 20mV	P
6	DC INPUT CURRENT	I/P : 96VDC SPEC : 2.1A O/P : FULL LOAD	B: :1.8A	P
7	MAX. INRUSH CURRENT	I/P : 96VDC SPEC : 25A O/P : FULL LOAD	B: 22.87A	F NOTE1
8	O/P VOLTAGE ADJ. RANGE	I/P : 115VAC SPEC : A:11~16V O/P : MIN. LOAD B:23~30V	A: 9.10~16.28V B: 21.74~32.75V	P
9	SET UP TIME	I/P : 115VAC SPEC : 2S O/P : FULL LOAD	B: 771mS	P
10	HOLD UP TIME	I/P : 115VAC SPEC : 20mS O/P : FULL LOAD	B: 32mS	P
11	EFFICIENCY	I/P : 115VAC SPEC : A:79% O/P : FULL LOAD B:82%	A: 80.28% B: 82.95%	P
12	OVER LOAD PROTECTION	I/P : 115VAC SPEC : 105%~135% O/P : TESTING	A: 125% B: 128%	P
13	OVER VOLTAGE PROTECTION	I/P : 115VAC SPEC : A:16.8V~20V O/P : 10% LOAD B:31.5V~37.5V	A: 18.31V B: 35.17V	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.	B: I/P-O/P : >100M Ohms I/P-FG : >100M Ohms O/P-FG : >100M Ohms	P
15	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 : <4.56mA I/P-FG : <7.74mA O/P-FG : <3.85mA	P
16	BURN-IN TEST	I/P : 96VDC O/P:FULL LOAD TA : 24°C BURN-IN DURATION :8hrs	B:NON BREAK	P
17	ENVIRONMENT TEST	HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 96VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 43.2°C	AFTER 15 hrs NON BREAK	P

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VEDICT																																				
18	TEMPERATURE RISE TEST T rise OF PARTS	B: I/P : 96VDC AFTER 8 hrs BURN-IN O/P : FULL LOAD TA : 24°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>Q6</td> <td>MAIN TRANSISTOR</td> <td>82.8°C</td> <td>58.8°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER COIL</td> <td>80.0°C</td> <td>56.0°C</td> </tr> <tr> <td>D11</td> <td>O/P DIODE</td> <td>77.2°C</td> <td>53.2°C</td> </tr> <tr> <td>C33</td> <td>O/P FILTER CAPACITOR</td> <td>56.2°C</td> <td>32.2°C</td> </tr> <tr> <td>L1</td> <td>O/P CHOCK</td> <td>83.3°C</td> <td>59.3°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>63.5°C</td> <td>39.5°C</td> </tr> <tr> <td>LF1</td> <td>LINE FILTER TRANSFORMER</td> <td>68.8°C</td> <td>44.8°C</td> </tr> <tr> <td>BD</td> <td>BRIDGE DIODE</td> <td>94.5°C</td> <td>70.5°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	Q6	MAIN TRANSISTOR	82.8°C	58.8°C	T1	MAIN TRANSFORMER COIL	80.0°C	56.0°C	D11	O/P DIODE	77.2°C	53.2°C	C33	O/P FILTER CAPACITOR	56.2°C	32.2°C	L1	O/P CHOCK	83.3°C	59.3°C	C5	I/P FILTER CAPACITOR	63.5°C	39.5°C	LF1	LINE FILTER TRANSFORMER	68.8°C	44.8°C	BD	BRIDGE DIODE	94.5°C	70.5°C		P
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19	LIFE CYCLE	B: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT I/P : 96VDC O/P : FULL LOAD Ta : 25°C Tc33 : 57.2°C Life:67181 hrs I/P : 96VDC O/P : FULL LOAD Ta : 40°C Tc33 : 68.8°C Life:30064 hrs		P																																				
20	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	B: FUSE : 4AL/250V G INPUT DIODE : LT PUB606 LINE FILTER : TF264 EE-35 TRANSFORMER : TF 299-R2 ETD-34 POWER SWITCHER : IRFP460 TO-3P OUTPUT DIODE : ESAD9202 TO-3P OUTPUT CAPACITOR : JAMICON 330uF/50V 105°C WG INPUT CAPACITOR : RUBYCON 330uF/200V NEG 85°C P.C.B : SD-150-R1 FR-4 2 OZ DS																																						
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																																				
980707	SD-150D	NOTE1:DC INRUSH CURRENT OVER SPEC(20A) 實測22.87A	H.C.LIOU																																					