



■ 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

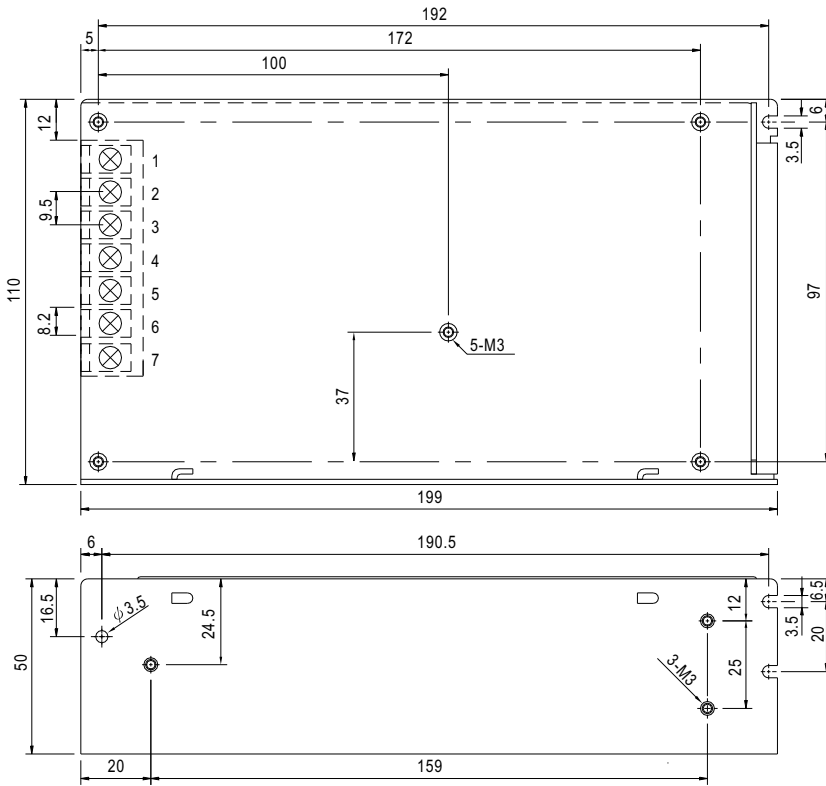
CB (for D type only) **CE**

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	EMC 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	<p>1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>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.</p>						

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

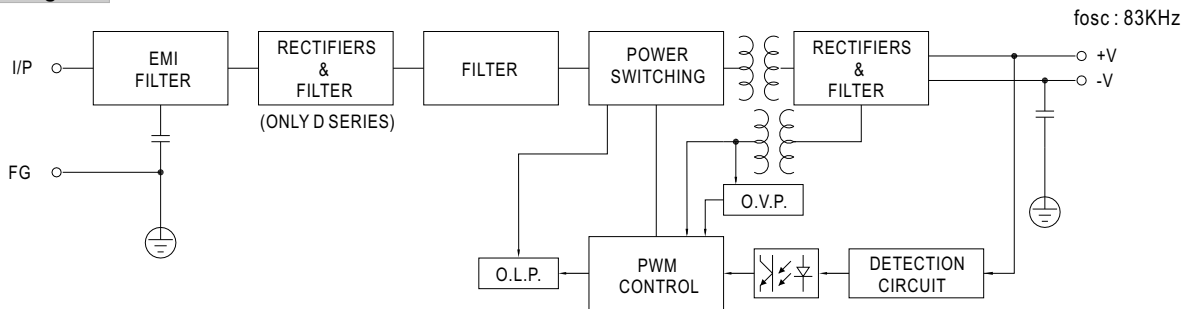
※ SD-150B,C

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

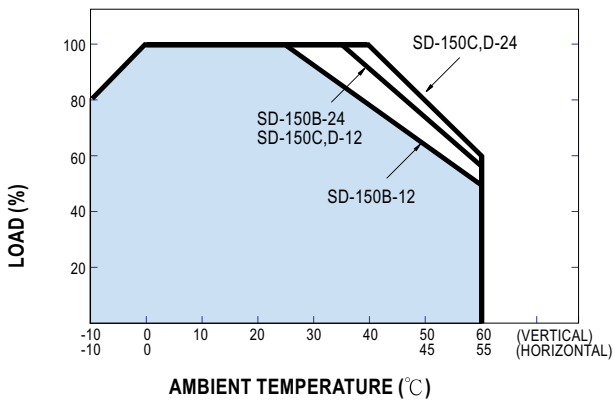
※ SD-150D

Pin No.	Assignment
1,2	AC/DC INPUT

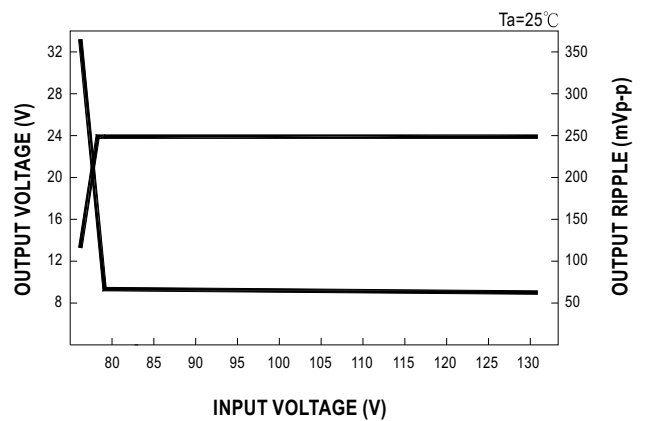
Block Diagram



Derating Curve



Static Characteristics (24V)



Quality Engineering Test Report

SERIES: SD-150B 150W DC-DC SINGLE OUTPUT SWITCHING POWER SUPPLY

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

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

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 19~36VDC O/P : FULL LOAD	B: 16.1~36VDC	P
2	LINE REGULATION	I/P : 19~36VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3%	A: -0%~+0% B: -0%~+0%	P
3	LOAD REGULATION	I/P : 24VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3%	A: -0.1%~+0.1% B: :-0.05%~+0.05%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 19~36VDC SPEC : A:±1% O/P : MIN. TO FULL LOAD B:±1%	A: -0.1%~+0.2% B: :-0.05%~+0.08%	P
5	RIPPLE&NOISE	I/P : 24VDC SPEC : A:120mVp-p O/P : FULL LOAD B:150mVp-p	A: 19mV B: :16mV	P
6	DC INPUT CURRENT	I/P : 24VDC SPEC : 8.5A O/P : FULL LOAD	B: :7.6A	P
7	MAX. INRUSH CURRENT	I/P : 24VDC SPEC : NONE O/P : FULL LOAD	B: :49.3A	P
8	O/P VOLTAGE ADJ. RANGE	I/P : 24VDC SPEC : A:11~16V O/P : MIN. LOAD B:23~30V	A: 9.71~16.61V B: 21.73~33.03V	P
9	SET UP TIME	I/P : 24VDC SPEC : 2S O/P : FULL LOAD	B: 1632mS	P
10	EFFICIENCY	I/P : 24VDC SPEC : A:75% O/P : FULL LOAD B:77%	A: 77.2% B: 81.4%	P
11	OVER LOAD PROTECTION	I/P : 24VDC SPEC : 105%~135% O/P : TESTING	A: 121% B: 120.8%	P
12	OVER VOLTAGE PROTECTION	I/P : 24VDC SPEC : A:16.8V~20V O/P : TESTING B:31.5V~37.5V	A: 17.78V B: 34.99V	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.	B: 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)	B: I/P-O/P : <3.77mA I/P-FG : <4.72mA O/P-FG : <3.36mA	P
15	BURN-IN TEST	I/P : 24VDC O/P:FULL LOAD TA : 27.4°C BURN-IN DURATION : 4 hrs	B:NON BREAK	P
16	ENVIRONMENT TEST (SAMPLE A:)	1.LOW TEMPERATURE TEST I/P : 18.3 VDC O/P : FULL LOAD AMBIENT TEMPERATURE : -10°C	AFTER 2 hrs POWER ON OK	P
		2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST I/P : 24.1VDC O/P : FULL LOAD AMBIENT TEMPERATURE : 27.4°C	AFTER 3 hrs NON BREAK	

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT																												
17	TEMPERATURE RISE TEST T rise OF PARTS	<p style="text-align: center;">B: I/P : 24VDC AFTER 1 hr BURN-IN O/P : FULL LOAD TA : 22.4°C</p> <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>Q1</td> <td>MAIN TRANSISTOR</td> <td>92.8°C</td> <td>69.1°C</td> </tr> <tr> <td>T1</td> <td>MAIN TRANSFORMER</td> <td>76.1°C</td> <td>52.4°C</td> </tr> <tr> <td>D11</td> <td>O/P DIODE</td> <td>80.5°C</td> <td>56.8°C</td> </tr> <tr> <td>C33</td> <td>O/P FILTER CAPACITOR</td> <td>55°C</td> <td>31.3°C</td> </tr> <tr> <td>L1</td> <td>O/P CHOCK</td> <td>62.2°C</td> <td>38.5°C</td> </tr> <tr> <td>C5</td> <td>I/P FILTER CAPACITOR</td> <td>53.7°C</td> <td>30°C</td> </tr> </tbody> </table>	POSITION	P/N	TEMP	T rise	Q1	MAIN TRANSISTOR	92.8°C	69.1°C	T1	MAIN TRANSFORMER	76.1°C	52.4°C	D11	O/P DIODE	80.5°C	56.8°C	C33	O/P FILTER CAPACITOR	55°C	31.3°C	L1	O/P CHOCK	62.2°C	38.5°C	C5	I/P FILTER CAPACITOR	53.7°C	30°C		P
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18	LIFE CYCLE	<p>B: SUPPOSE C33 IS THE MOST CRITICAL COMPONENT</p> <p>I/P : 24VDC O/P : FULL LOAD Ta : 25°C Tc33 : 56.3°C Life: 45941 hrs</p> <p>I/P : 24VDC O/P : FULL LOAD Ta : 34°C Tc33 : 66.7°C Life: 23291 hrs</p>		P																												
19	CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)	<p>B: FUSE : F 15AL/250V G UL</p> <p>INPUT DIODE : 1N5401</p> <p>LINE FILTER : LF TF-307-R1 EE-35</p> <p>TRANSFOMER : MT TF-300-R1 ETD-34</p> <p>POWER SWITCHER : C25P06Q TO-3P</p> <p>OUTPUT DIODE : D9202 TO-3P</p> <p>OUTPUT CAPACITOR : JAMICON 330uF/50V 105°C WG</p> <p>INPUT CAPACITOR : N.C.C 330uF/100V KMF 105°C</p> <p>P.C.B : SD-150-R1 FR-4 2 OZ DS</p>																														
DATE	SAMPLE	TEST RESULT	TEST	APPROVAL																												
980506	SD-150B	PASS	H.C.LIOU	Max Lin																												