



150W Single Output DC-DC Converter

SD-150 series



■ 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

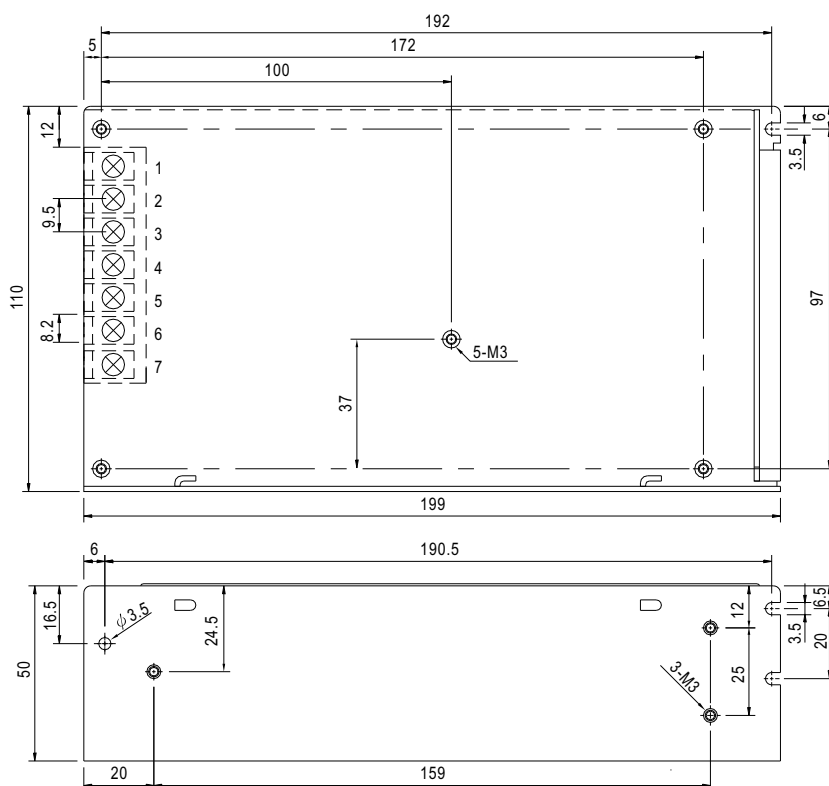
CB (for D type only) **CE**

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		
		Protection type : Hiccup mode, recovers automatically after fault condition is removed					
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)					
	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℃ / 70% RH					
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B					
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,6,8; ENV50204, light industry level, criteria A					
OTHERS	MTBF	296.2K hrs min.(SD-150B)		289.9K hrs min.(SD-150C)	289K Hrs min.(SD-150D)	MIL-HDBK-217F (25℃)	
	DIMENSION	199*110*50mm (L*W*H)					
	PACKING	0.86Kg; 16pcs/14.5Kg/0.95CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 24,48,96VDC input, rated load and 25℃ 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 $\perp$	6,7	DC OUTPUT +V

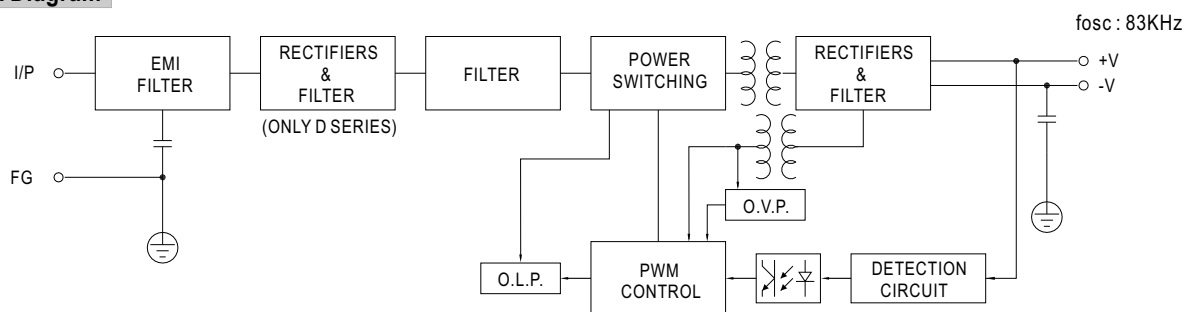
※ SD-150B,C

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

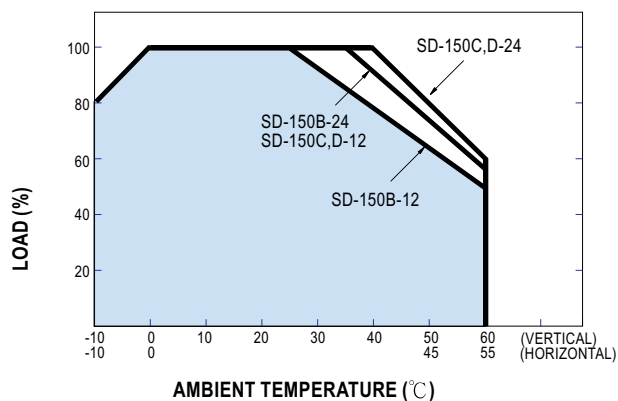
※ SD-150D

Pin No.	Assignment
1,2	AC/DC INPUT

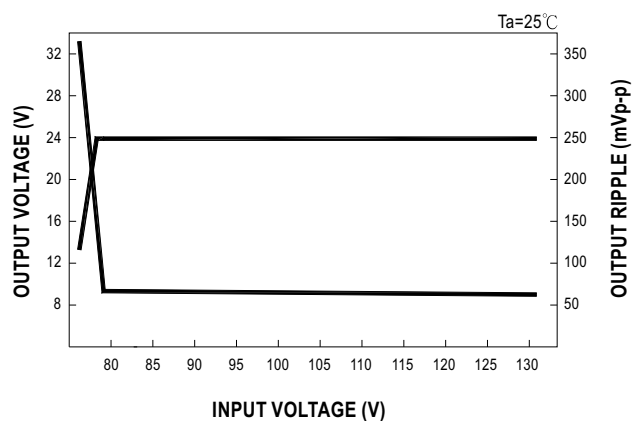
■ Block Diagram



Derating Curve



■ Static Characteristics (24V)



Quality Engineering Test Report

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

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

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

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	DC INPUT VOLTAGE RANGE	I/P : TESTING SPEC : 36~72VDC O/P : FULL LOAD	B: 31.6~72VDC	P
2	LINE REGULATION	I/P : 36~72VDC SPEC : A:±0.5% O/P : FULL LOAD B:±0.3%	A: ----- B: -0.025%~-0.025%	P
3	LOAD REGULATION	I/P : 48VDC SPEC : A:±0.5% O/P : MIN. TO FULL LOAD B:±0.3%	A: ----- B: :-0.041%~+0.054%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P : 36~72VDC SPEC : A:±1% O/P : MIN. TO FULL LOAD B:±1%	A: ----- B: :-0.075%~+0.54%	P
5	RIPPLE&NOISE	I/P : 48VDC SPEC : A:120mVp-p O/P : FULL LOAD B:150mVp-p	A: ----- B: :16mV	P
6	DC INPUT CURRENT	I/P : 48VDC SPEC : 4.2A O/P : FULL LOAD	B: :3.675A	P
7	MAX. INRUSH CURRENT	I/P : 48VDC SPEC : NONE O/P : FULL LOAD	: NONE	P
8	O/P VOLTAGE ADJ. RANGE	I/P : 48VDC SPEC : A:11~16V O/P : MIN. LOAD B:23~30V	A: ----- B: 21.44~32.88V	P
9	SET UP TIME	I/P : 48VDC SPEC : 2S O/P : FULL LOAD	B: 1724mS	P
10	EFFICIENCY	I/P : 48VDC SPEC : A:77% O/P : FULL LOAD B:80%	A: ----- B: 85.44%	P
11	OVER LOAD PROTECTION	I/P : 48VDC SPEC : 105%~135% O/P : TESTING	A: ----- B: 121%	P
12	OVER VOLTAGE PROTECTION	I/P : 48VDC SPEC : A:16.8V~20V O/P : 10% LOAD B:31.5V~37.5V	A: ----- B: 31.7V	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 : <2.587mA I/P-FG : <3.51mA O/P-FG : <2.157mA	P
15	BURN-IN TEST	I/P : 48VDC O/P:FULL LOAD TA : 27.4°C BURN-IN DURATION : 2 hrs	B:NON BREAK	P