

# Datasheet

100W Single Output DC-DC Converter

SD-100 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
- Fixed switching frequency at 83KHz
- 24V and 48V input voltage design refer to LVD
- Low cost
- High reliability
- 2 years warranty

CB (for D type only) CE

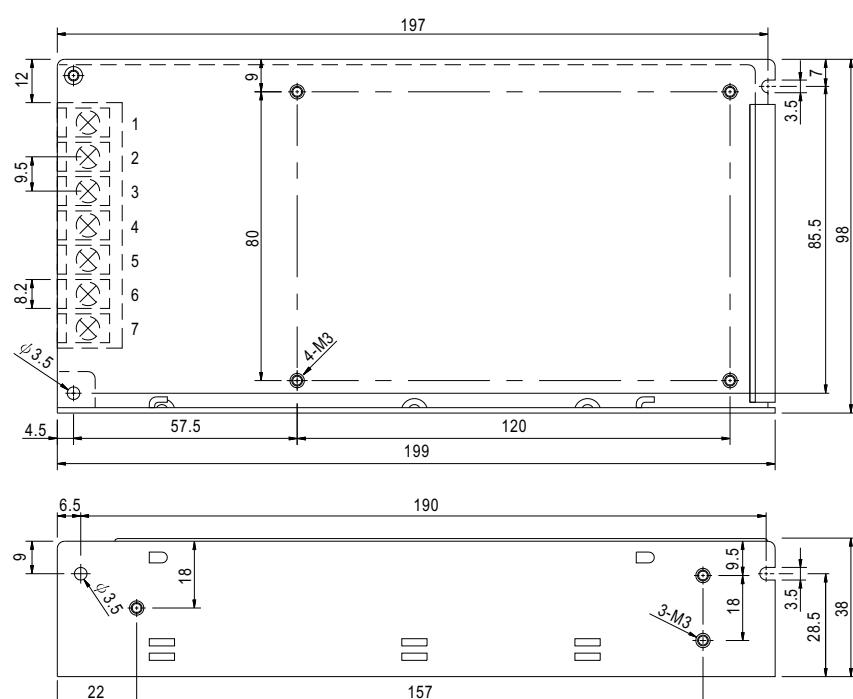
**SPECIFICATION**

MODEL	678-3587	678-3584	491-241	491-239	678-3593	183-679	183-657	183-708
OUTPUT	DC VOLTAGE	5V	12V			24V		
	RATED CURRENT	20A	8.5A			4.2A		
	CURRENT RANGE	0 ~ 20A	0 ~ 8.5A			0 ~ 4.2A		
	RATED POWER	100W	102W			100.8W		
	ripple & noise (max.) Note.2	100mVp-p	120mVp-p			150mVp-p		
	VOLTAGE ADJ. RANGE	4.5 ~ 5.5VDC	11 ~ 16VDC			23 ~ 30VDC		
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%			±1.0%		
	LINE REGULATION	±0.5%	±0.3%			±0.2%		
	LOAD REGULATION	±0.5%	±0.3%			±0.2%		
	SETUP, RISE TIME	2s, 50ms (only D mode) at full load						
INPUT	HOLD UP TIME (Typ.)	20ms (only D mode) at full load						
	VOLTAGE RANGE	B:19 ~ 36VDC C:36 ~ 72VDC D:72 ~ 144VDC or 85 ~ 132VAC						
	EFFICIENCY (Typ.)	74% 75% 76% 75% 77% 80% 78% 81% 83%						
	DC CURRENT (Typ.)	4.8A/24V 2.4A/48V 1.8A/96V 4.8A/24V 2.4A/48V 1.8A/96V 4.8A/24V 2.4A/48V 1.8A/96V						
	INRUSH CURRENT (Typ.)	D:18A/96VDC						
PROTECTION	LEAKAGE CURRENT	<0.75mA/120VAC (SD-100D)						
	OVERLOAD	105 ~ 135% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
ENVIRONMENT	OVER VOLTAGE	5.75 ~ 6.75V/10% load	16.8 ~ 20V/10% load		31.5 ~ 37.5V/10% load			
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
SAFETY & EMC (Note 4)	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						
OTHERS	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						
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,6,8; ENV50204, light industry level, criteria A						
NOTE	MTBF	356.7K hrs min.(SD-100B)	355.5K hrs min.(SD-100C)	341.9K Hrs min.(SD-100D)	MIL-HDBK-217F (25°C)			
	DIMENSION	199*98*38mm (L*W*H)						
	PACKING	0.65Kg; 20pcs/13.8Kg/0.8CUFT						

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. 902 Unit:mm


**Terminal Pin No. Assignment**

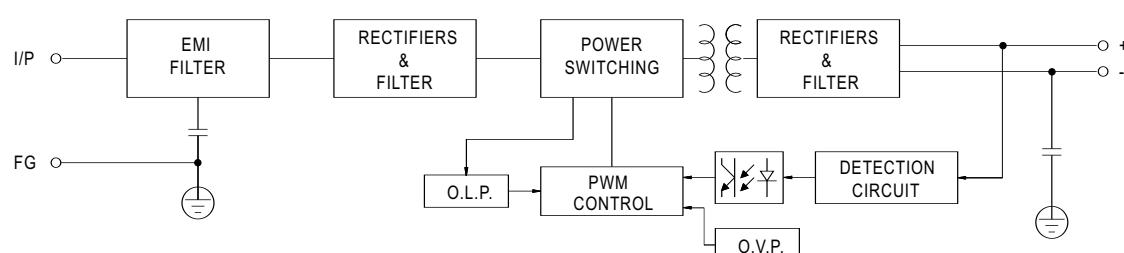
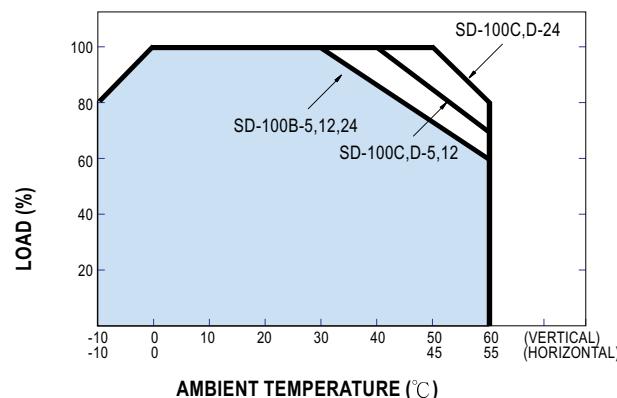
Pin No.	Assignment	Pin No.	Assignment
1,2	INPUT	4,5	DC OUTPUT-V
3	FG	6,7	DC OUTPUT+V

※ SD-100B,C

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

※ SD-100D

Pin No.	Assignment
1,2	AC/DC INPUT

**■ Block Diagram**

**■ Derating Curve**

**■ Static Characteristics(SD-100D-24V)**
