



25W Single Output DC-DC Converter

SD-25 series



■ Features :

- 2:1 wide input range
- Protections: Short circuit / Overload / Over voltage
- 1500VAC I/O isolation
- Built-in EMI filter, low ripple noise
- 100% full load burn-in test
- Fixed switching frequency at 83KHz
- Low cost
- High reliability
- 2 years warranty

User's Manual



■ GTIN CODE

MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

AS/NZS62368-1 TPTC004

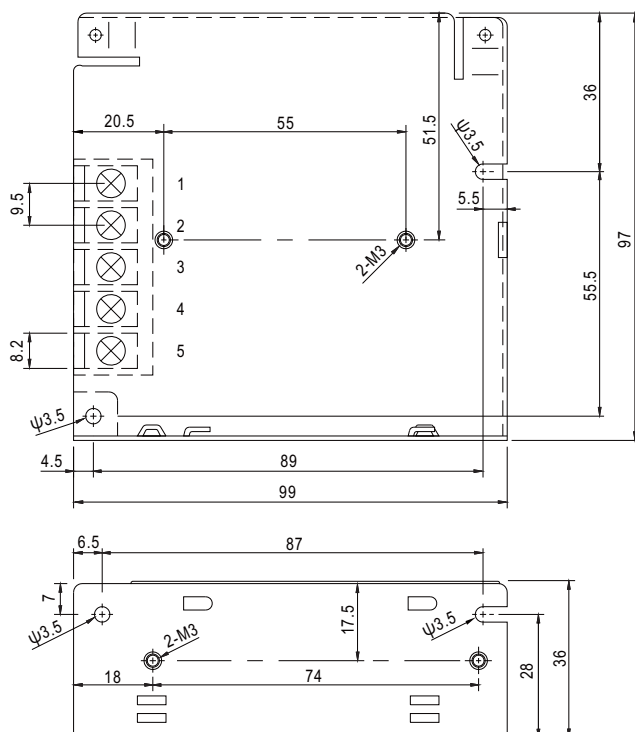
SPECIFICATION

MODEL		SD-25A-5	SD-25B-5	SD-25C-5	SD-25A-12	SD-25B-12	SD-25C-12	SD-25A-24	SD-25B-24	SD-25C-24
OUTPUT	DC VOLTAGE	5V			12V			24V		
	RATED CURRENT	5A			2.1A			1.1A		
	CURRENT RANGE	0 ~ 5A			0 ~ 2.1A			0 ~ 1.1A		
	RATED POWER	25W			25.2W			26.4W		
	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, HOLD UP TIME		2.5s, 50ms, ----- at full load								
INPUT	VOLTAGE RANGE	A:9.2 ~ 18VDC B:19 ~ 36VDC C:36 ~ 72VDC								
	EFFICIENCY (Typ.)	71%	72%	74%	72%	75%	78%	75%	78%	81%
	DC CURRENT	3.2A/12V	1.6A/24V	0.8A/48V	3.2A/12V	1.6A/24V	0.8A/48V	3.2A/12V	1.6A/24V	0.8A/48V
PROTECTION	OVERLOAD	105 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed								
	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								
ENVIRONMENT	WORKING TEMP.	-10 ~ +60°C (Refer to "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	EAC TP TC 004 approved, Design refer to LVD, AS/NZS 62368.1								
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC								
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C/ 70% RH								
	EMC EMISSION	Compliance to BS EN/EN55032 (CISPR32) Class B, EAC TP TC 020								
OTHERS	EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,6,8, BS EN/EN55035,heavy industry level, EAC TP TC 020								
	MTBF	3682.6K hrs min. Telcordia SR-332 (Bellcore) ; 528.8K hrs min. MIL-HDBK-217F (25°C)								
	DIMENSION	99*97*36mm (L*W*H)								
	PACKING	0.38Kg; 45pcs/17.8Kg/0.94CUFT								
NOTE	1. All parameters NOT specially mentioned are measured at 12,24,48VDC 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 0.1 μ F & 47 μ F 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. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com/Upload/PDF/EMI_statement_en.pdf) 5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx									

SD-25 series

(Unit: mm , tolerance ± 1 mm)

Case No. 905



Terminal Pin No. Assignment

Pin No.	Assignment	Pin No.	Assignment
1	DC OUTPUT -V	4	DC INPUT V+
2	DC OUTPUT +V	5	DC INPUT V-
3	FG $\pm$		

Block diagram of a power supply system. The input (I/P) goes to an EMI FILTER, which is grounded (FG). The output of the EMI filter goes to the POWER SWITCHING block. The POWER SWITCHING block is connected to a transformer, which is connected to the RECTIFIERS & FILTER block. The output of the RECTIFIERS & FILTER block provides +V and -V rails, which are grounded. The +V rail is also connected to a DETECTION CIRCUIT. The DETECTION CIRCUIT is connected to a PWM CONTROL block. The PWM CONTROL block is connected to the POWER SWITCHING block and has an O.L.P. (Over Load Protection) input. The PWM CONTROL block also has an O.V.P. (Over Voltage Protection) output.

Graph showing Load (%) versus Ambient Temperature (°C) for SD-25A, SD-25B-5, and SD-25C-5. The graph indicates a plateau at 100% load up to 40°C, followed by a linear decrease. SD-25B,C/12,24 shows the highest temperature tolerance, maintaining 80% load up to 60°C. SD-25A and SD-25C-5 reach 80% load at 55°C.

Ambient Temperature (°C)	SD-25A Load (%)	SD-25B-5 Load (%)	SD-25C-5 Load (%)	SD-25B,C/12,24 Load (%)
-10	80	80	80	80
0	100	100	100	100
40	100	100	100	100
55	80	80	80	100
60	-	-	-	80

The graph shows the output voltage and ripple of the 7805 regulator as a function of input voltage. The left y-axis represents Output Voltage (V) from 8 to 32. The right y-axis represents Output Ripple (mVp-p) from 50 to 350. The x-axis represents Input Voltage (V) from 25 to 72. The output voltage (solid line) is 0V for input voltages below 30V, jumps to 5V at 30V, and remains constant at 5V for higher input voltages. The output ripple (dashed line) starts at approximately 340 mVp-p at 30V, drops to about 120 mVp-p at 35V, and remains constant at 120 mVp-p for higher input voltages.

Input Voltage (V)	Output Voltage (V)	Output Ripple (mVp-p)
25	0	-
30	5	340
35	5	120
40	5	120
45	5	120
50	5	120
55	5	120
60	5	120
65	5	120
70	5	120
72	5	120