50W Single Output Switching Power Supply — LPS-50 series





User's Manual

Features :

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Cooling by free air convection
- Small and compact size
- Built-in remote ON-OFF control
- LED indicator for power on
- 100% full load burn-in test
- Low profile:23mm thickness
- 2 years warranty

GTIN CODE

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

UL62368-1 BS EN/EN62368-1 IEC62368-1 TPTC004

SPECIFICATION

MODEL			LPS-50-3.3	LPS-50-5	LPS-50-12	LPS-50-15	LPS-50-24	LPS-50-48
OUTPUT	DC VOLTAGE		3.3V	5V	12V	15V	24V	48V
	RATED CURRENT		10A	10A	4.2A	3.4A	2.1A	1.1A
	CURRENT RANGE		0 ~ 12A	0 ~ 12A	0 ~ 5A	0 ~ 4.1A	0 ~ 2.5A	0 ~ 1.3A
	RATED POWER		33W	50W	50.4W	51W	50.4W	52.8W
	PEAK LOAD(10sec.) Note.4		39.6W	60W	60W	61.5W	60W	62.4W
	RIPPLE & NOISE (max.) Note.2		50mVp-p	50mVp-p	80mVp-p	80mVp-p	80mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE		3 ~ 3.6V	4.5 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 27.2V	43.2 ~ 52.8V
	VOLTAGE TOLERANCE Note.3		±3.0%	±3.0%	±2.0%	±2.0%	±1.0%	±1.0%
	LINE REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LOAD REGULATION		±3.0%	±3.0%	±2.0%	±2.0%	±1.0%	±1.0%
	SETUP, RISE TIME		500ms, 40ms/230VAC 500ms, 40ms/115VAC at full load					
	HOLD UP TIME (Typ.)		70ms/230VAC 12ms/115VAC at full load					
INPUT	VOLTAGE RANGE		90 ~ 264VAC 127 ~ 370VDC					
	FREQUENCY RANGE		47 ~ 63Hz					
	EFFICIENCY(Typ.)		75%	81%	82%	84%	85%	86%
	AC CURRENT (Typ.)	115VAC	0.9A	1.2A				
		230VAC	0.6A	0.8A				
	INRUSH CURRENT (Typ.)		COLD START 18A/115VAC 35A/230VAC					
	LEAKAGE CURRENT		<1mA / 240VAC					
PROTECTION	OVERLOAD		122 ~ 160% rated output power					
			Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE		3.8 ~ 4.45V	5.75 ~ 6.75V	13.8 ~ 16.2V	17.25 ~ 20.25V	27.6 ~ 32.4V	57.6 ~ 67.2V
			Protection type : Hiccup mode, recovers automatically after fault condition is removed					
FUNCTION	REMOTE ON/OFF		RC+/RC- : 0 ~ 0.8V power on ; 4 ~ 10V power off					
ENVIRONMENT	WORKING TEMP.		-20 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY		20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-20 ~ +85℃, 10 ~ 95% RH					
	TEMP. COEFFICIENT		±0.04%/℃ (0 ~ 50℃)					
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
SAFETY & EMC (Note 5)	SAFETY STANDARDS		UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 approved					
	WITHSTAND VOLTAGE		I/P-O/P:3KVAC 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℃/ 70% RH					
	EMC EMISSION		Compliance to BS EN/EN55032 (CISPR32) Class B, BS EN/EN61000-3-2,-3, EAC TP TC 020					
	EMC IMMUNITY		Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS EN/EN61000-6-2 (BS EN/EN50082-2), heavy industry level, criteria A, EAC TP TC 020					
OTHERS	MTBF		3138.2K hrs min. Telcordia SR-332 (Bellcore) ; 491.4K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION		195*55*23mm (L*W*H)					
	PACKING		0.24Kg; 48pcs/12.5Kg/0.87CUFT					

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC 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. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.
5. 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 http://www.meanwell.com)
6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/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

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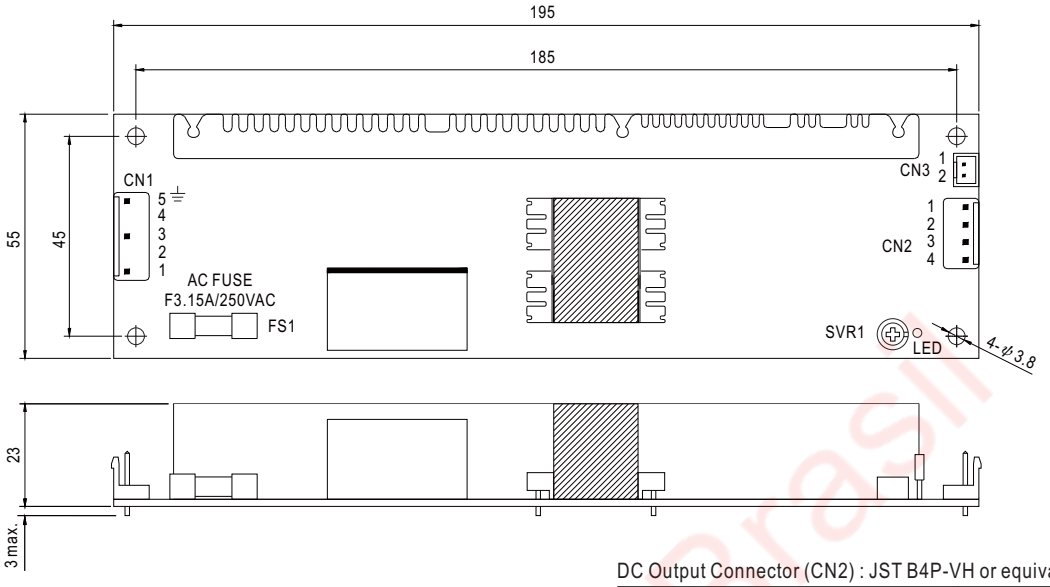
■ Mechanical Specification

Unit:mm



AC Input Connector (CN1) : JST B5P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/L	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2,4	No Pin		
3	AC/N		
5	FG ⏚		

DC Output Connector (CN2) : JST B4P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	-V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4	+V		

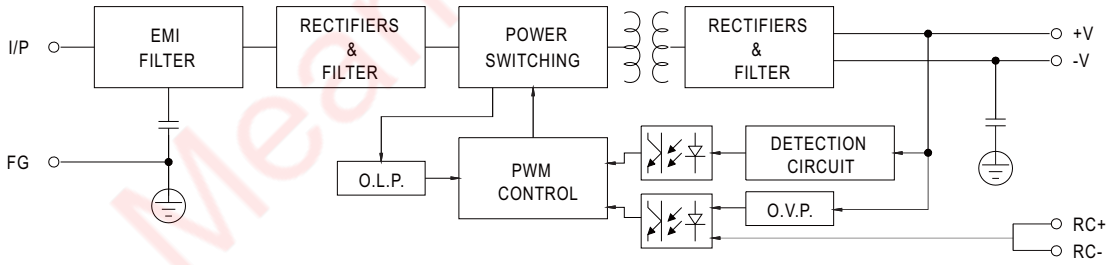
Remote ON/OFF Connector(CN3):JST B2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	RC+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	RC-		

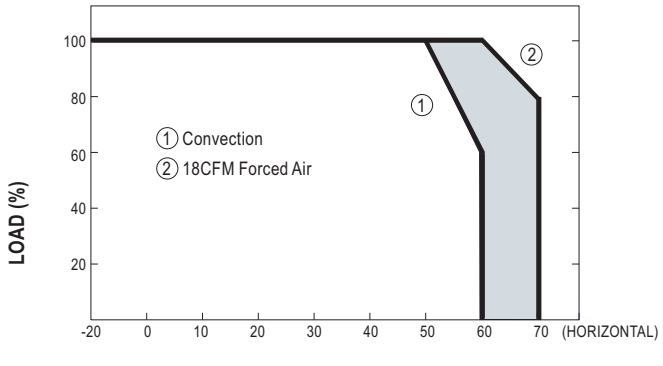
⏚ : Grounding Required
CN1:Pin 5 is safety ground

■ Block Diagram

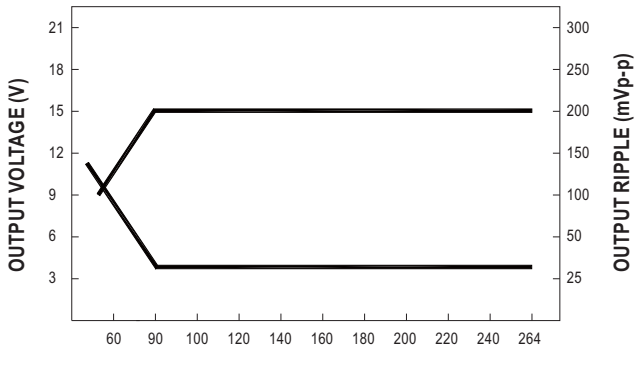
fosc : 60KHz



■ Derating Curve



■ Static Characteristics (15V)



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