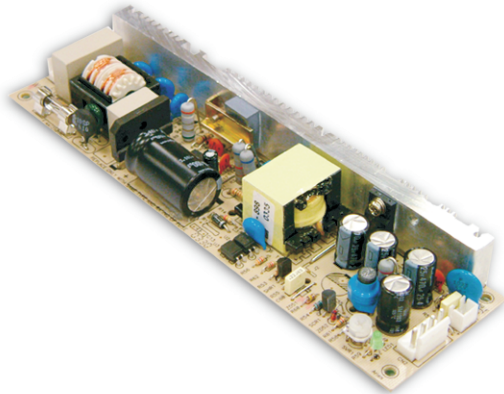




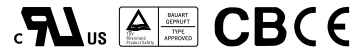
# 50W Single Output Switching Power Supply

# LPS-50 series



### ■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/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

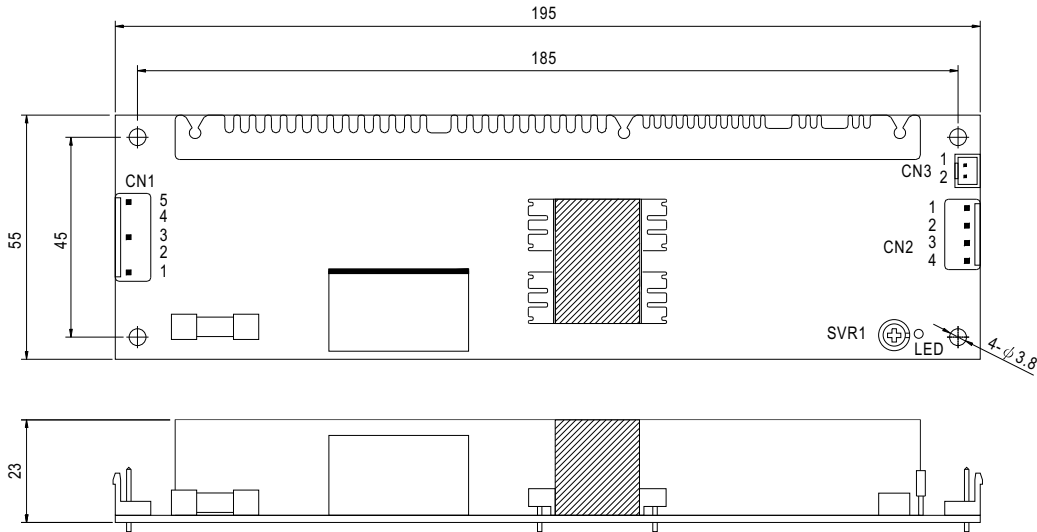


### SPECIFICATION

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.) <small>Note.4</small>	39.6W	60W	60W	61.5W	60W	62.4W	
	RIPPLE & NOISE (max.) <small>Note.2</small>	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 <small>Note.3</small>	±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	100ms, 40ms/230VAC    100ms, 40ms/115VAC at full load						
HOLD 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	OVER LOAD	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	
FUNCTION	REMOTE ON/OFF	RC+/RC- : 0 ~ 0.8V power on ; 4 ~ 10V power off						
ENVIRONMENT	WORKING TEMP.	-20 ~ +70°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	±0.04%/°C (0 ~ 50°C)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes						
SAFETY & EMC (Note 5)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved						
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC    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						
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B						
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3						
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61000-6-2 (EN50082-2) Heavy industry level, criteria A						
OTHERS	MTBF	341.7Khrs min.    MIL-HDBK-217F (25°C)						
	DIMENSION	195*55*23mm (L*W*H)						
	PACKING	0.24Kg; 48pcs/12.5Kg/0.84CUFT						
NOTE	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 47uf parallel capacitor.</li> <li>3. Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>4. 33.3% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.</li> <li>5. 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.</li> </ol>							

■ 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 $\perp$		

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

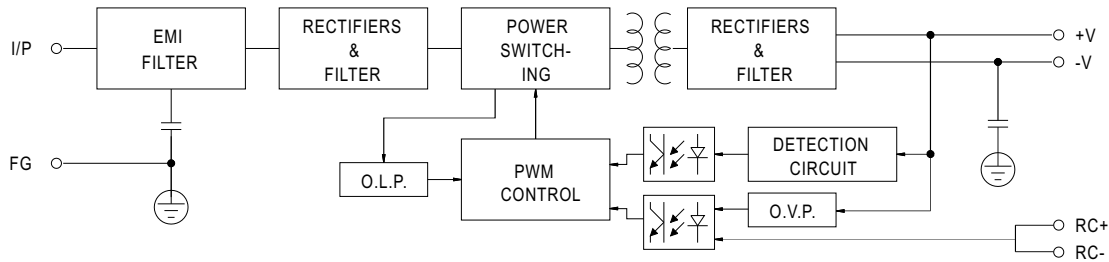
Pin No.	Assignment	Mating Housing	Terminal
1,2	-V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4	+V		

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

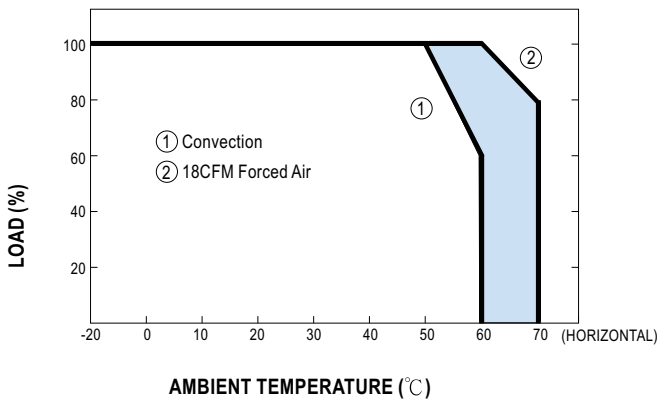
Pin No.	Assignment	Mating Housing	Terminal
1	RC+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	RC-		

■ Block Diagram

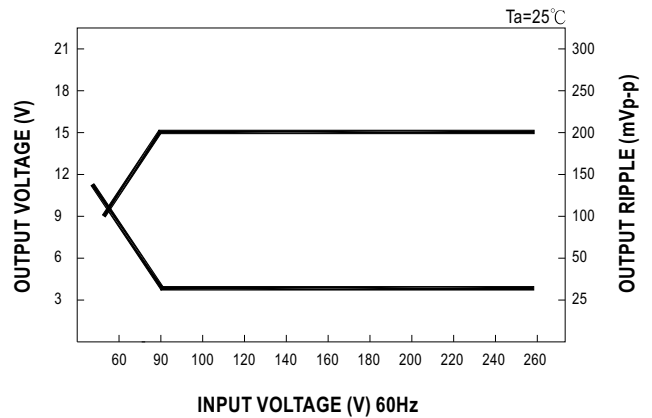
fosc : 60KHz

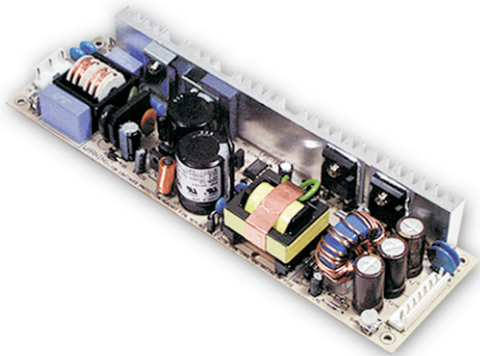


■ Derating Curve



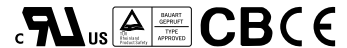
■ Static Characteristics (15V)





■ Features :

- Universal AC input / Full range
- Protections: Short circuit/Over load/Over voltage
- Cooling by free air convection
- 100% full load burn-in test
- Fix switching frequency at 134KHz
- 3 years warranty

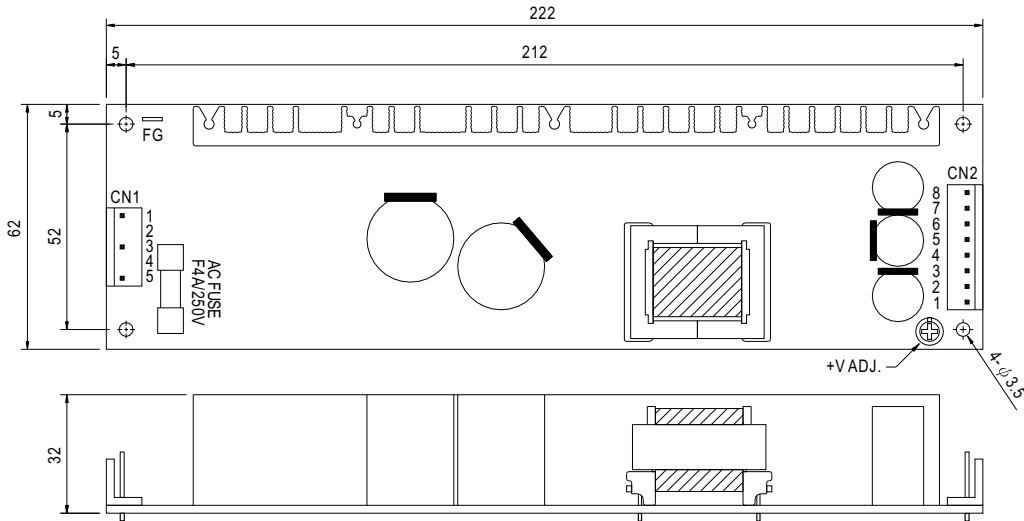


SPECIFICATION

MODEL	LPS-100-3.3	LPS-100-5	LPS-100-7.5	LPS-100-12	LPS-100-13.5	LPS-100-15	LPS-100-24	LPS-100-27	LPS-100-48		
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	13.5V	15V	24V	27V	48V	
	RATED CURRENT	20A	20A	13.3A	8.4A	7.5A	6.7A	4.2A	3.8A	2.1A	
	CURRENT RANGE	0 ~ 20A	0 ~ 20A	0 ~ 13.3A	0 ~ 8.4A	0 ~ 7.5A	0 ~ 6.7A	0 ~ 4.2A(6A 10s)	0 ~ 3.8A	0 ~ 2.1A	
	RATED POWER	66W	100W	99.75W	100.8W	101.25W	100.5W	100.8W(144W 10s)	102.6W	100.8W	
	RIPPLE & NOISE (max.) Note.2	150mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p	200mVp-p	
	VOLTAGE ADJ. RANGE	3 ~ 3.6V	4.5 ~ 5.7V	6 ~ 9V	10 ~ 13.2V	12 ~ 15V	13.5 ~ 18V	20 ~ 26.4V	26 ~ 32V	41 ~ 56V	
	VOLTAGE TOLERANCE Note.3	±3.0%	±3.0%	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	±2.0%	±2.0%	±1.5%	±1.5%	±1.5%	±1.5%	±0.5%	±0.5%	±0.5%	
	SETUP, RISE TIME	800ms, 50ms/230VAC		1200ms, 50ms/115VAC at full load							
HOLD TIME (Typ.)	20ms/230VAC		20ms/115VAC at full load								
INPUT	VOLTAGE RANGE	88 ~ 132VAC / 176 ~ 264VAC auto switch			248 ~ 370VDC						
	FREQUENCY RANGE	47 ~ 63Hz									
	EFFICIENCY(Typ.)	69%	77%	77%	79%	79%	80%	80%	81%	81%	
	AC CURRENT (Typ.)	2.3A/115VAC		1.5A/230VAC							
	INRUSH CURRENT (Typ.)	COLD START 30A/115VAC			60A/230VAC						
	LEAKAGE CURRENT	<1mA/ 240VAC									
PROTECTION	OVER LOAD	105 ~ 140% (+24V: above 6.5A) rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed									
	OVER VOLTAGE	3.8 ~ 4.45V	5.75 ~ 6.75V	9.4 ~ 10.9V	13.8 ~ 16.2V	15.5 ~ 18.2V	18 ~ 21V	27.6 ~ 32.4V	33.7 ~ 39.2V	57.6 ~ 67.2V	
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	±0.05%/°C (0 ~ 50°C)									
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, Period for 60min.each along X, Y, Z axes									
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL60950-1, TUV EN60950-1 Approved									
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC		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									
	EMI CONDUCTION & RADIATION	Compliance to EN55022 (CISPR22) Class B									
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3									
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,11, Light industry level, criteria A									
OTHERS	MTBF	203.6Khrs min.		MIL-HDBK-217F (25°C)							
	DIMENSION	222*62*32mm (L*W*H)									
	PACKING	0.45Kg; 24pcs/12.5Kg/1.76CUFT									
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf &amp; 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> <p>5. If the input range 85V-89V, the output load is changed from 0A-rated load, There will be reduced 20V for 1second (LPS-100-24).</p> <p>6. Mounting holes M1 and M2 should be grounded for EMI purposes.</p>										

■ Mechanical Specification

Unit:mm



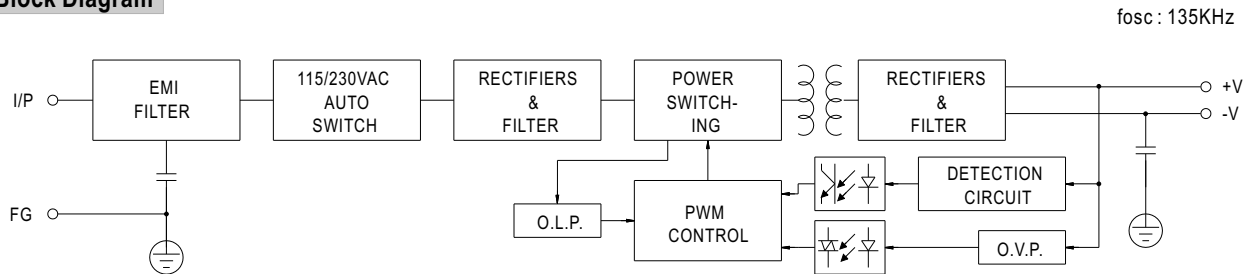
AC Input Connector (CN1) : JST B5P-VH or equivalent

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

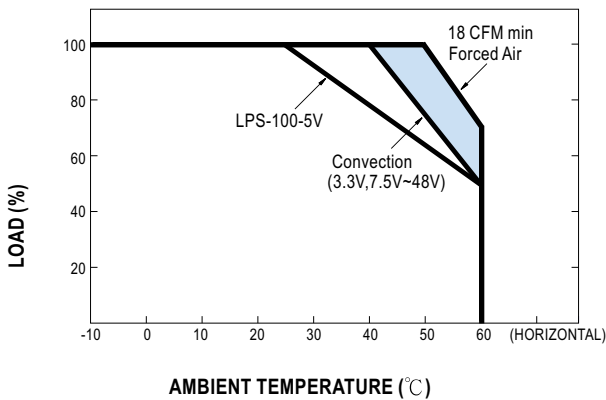
DC Output Connector (CN2) : JST B8P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3,4	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
5,6,7,8	-V		

■ Block Diagram



■ Output Derating



■ Static Characteristics (12V)

