

Professionally approved products.

Datasheet

RS 45.6W, 1 Output, Embedded Switch Mode Power Supply (SMPS), 24V dc, 1.9A

RS Stock number 721-1847



■ Features :

- Universal AC input / Full range
- Protections: Short circuit / Overload / Over voltage
- Built-in active PFC function
- Cooling by free air convection
- Output current level adjustable
- 100% full load burn-in test
- High reliability
- Suitable for built-in applications of LED lighting

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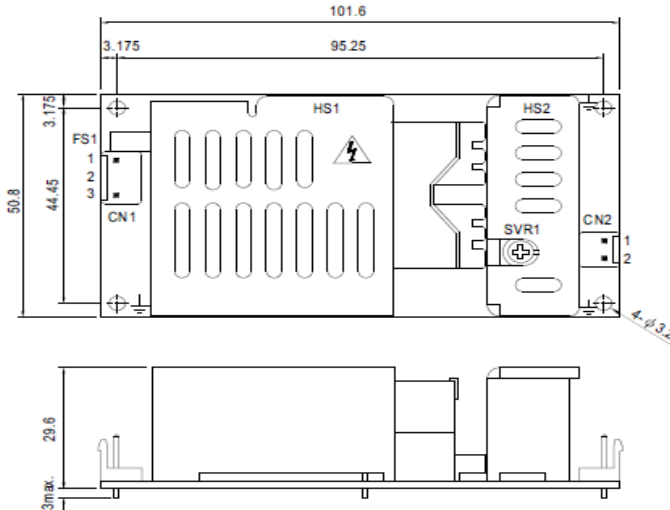
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MODEL	PLP-45-12	PLP-45-24	PLP-45-48	
OUTPUT	DC VOLTAGE	12V	24V	48V
	CONSTANT CURRENT OPERATION VOLTAGE <small>Note.1</small>	9 ~ 12V	18 ~ 24V	36 ~ 48V
	RATED CURRENT	3.8A	1.9A	0.95A
	CURRENT RANGE	0 ~ 3.8A	0 ~ 1.9A	0 ~ 0.95A
	RATED POWER	45.6W	45.6W	45.6W
	RIPPLE & NOISE (max.) <small>Note.2</small>	4.2Vp-p	3.8Vp-p	4.8Vp-p
	CURRENT ADJ. RANGE	2.85 ~ 3.8A	1.425 ~ 1.9A	0.715 ~ 0.95A
	VOLTAGE TOLERANCE <small>Note.3</small>	±10%		
	LINE REGULATION	±3.0%		
	LOAD REGULATION	±5.0%		
SETUP TIME	1000ms / 230VAC 2000ms / 115VAC at full load			
INPUT	VOLTAGE RANGE <small>Note.4</small>	90 ~ 264VAC 127 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	POWER FACTOR	PF ≥ 0.9 at 75 ~ 100% load, 115VAC / 230VAC		
	EFFICIENCY (Typ.)	86%	89%	89%
	AC CURRENT	0.6A/115VAC 0.3A/230VAC		
	INRUSH CURRENT (max.)	42A/230VAC		
	LEAKAGE CURRENT	<0.75mA/240VAC		
PROTECTION	OVER CURRENT <small>Note.5</small>	100 ~ 110% Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	SHORT CIRCUIT	Protection type : Hiccup mode, recovers automatically after fault condition is removed		
	OVER VOLTAGE	15 ~ 18V	28 ~ 35V	57 ~ 63V
		Protection type : Shut down o/p voltage, re-power on to recover		
ENVIRONMENT	WORKING TEMP.	-30 ~ +70°C (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 95% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-40 ~ +80°C, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 50°C)		
	VIBRATION	10 ~ 500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes		
SAFETY & EMC	SAFETY STANDARDS	TUV EN61347-1, EN61347-2-13 approved ; design refer to UL60950-1		
	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC I/P-FG: 1.88KVAC 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 EN55015		
	HARMONIC CURRENT	Compliance to EN61000-3-2 Class C (≥75% load); EN61000-3-3		
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, EN61547, light industry level, criteria A		
OTHERS	MTBF	586.5Khrs min. MIL-HDBK-217F (25°C)		
	DIMENSION	101.6*50.8*29.6mm (L*W*H)		
	PACKING	0.16Kg; 96pcs/16.4Kg/0.89CUFT		

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Mechanical Specification

Unit:mm



- 1.HS1,HS2 can not be shorted.
- 2.HS1 must have safety isolation distance with system case.

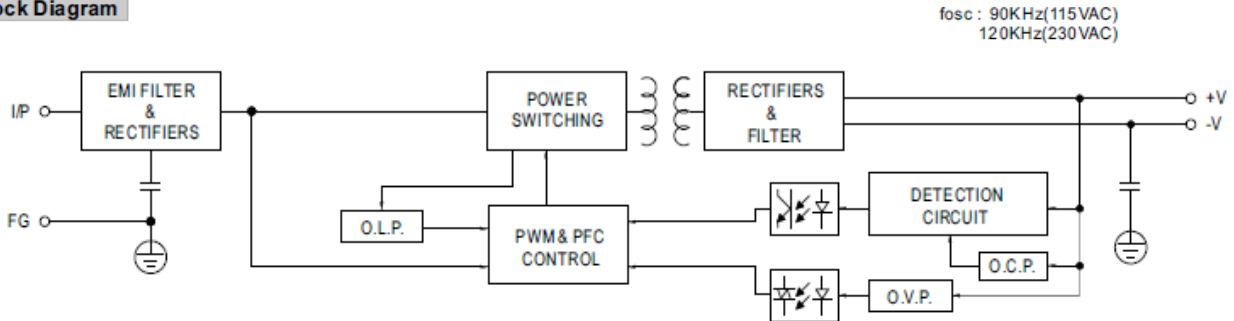
AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	ACL	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/N		

DC Output Connector (CN2) : JSTB2P-VH or equivalent

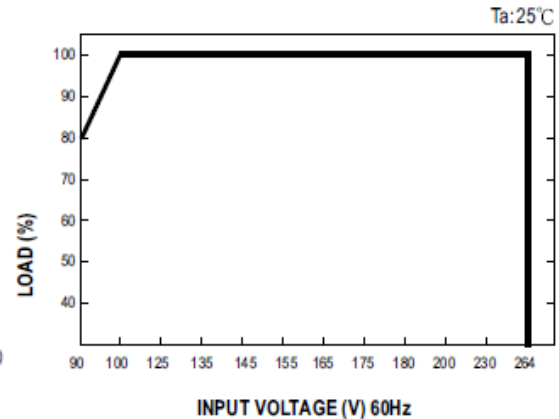
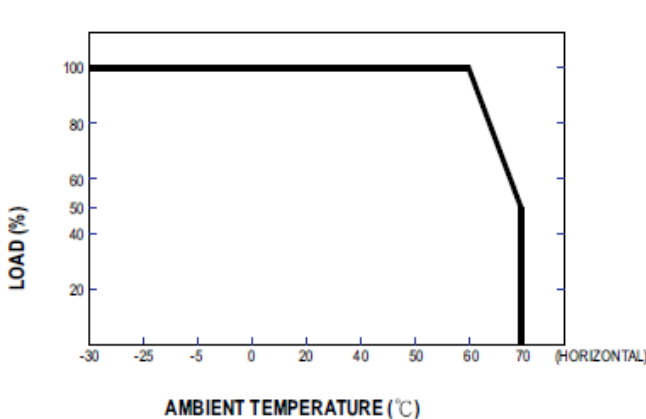
Pin No.	Assignment	Mating Housing	Terminal
1	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	-V		

Block Diagram



Derating Curve

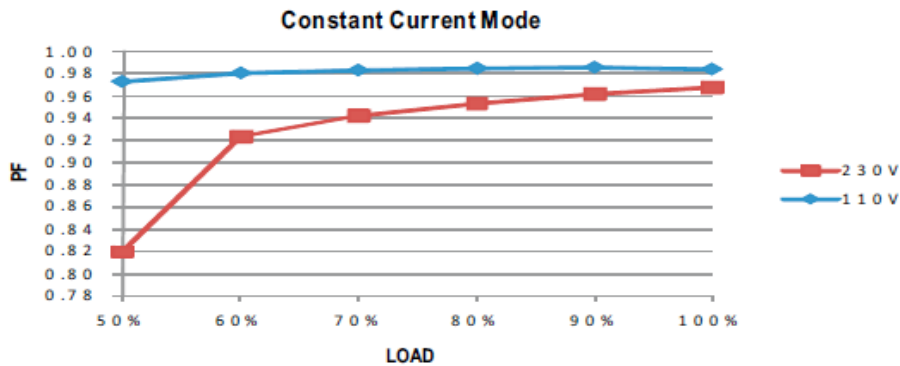
Static Characteristics



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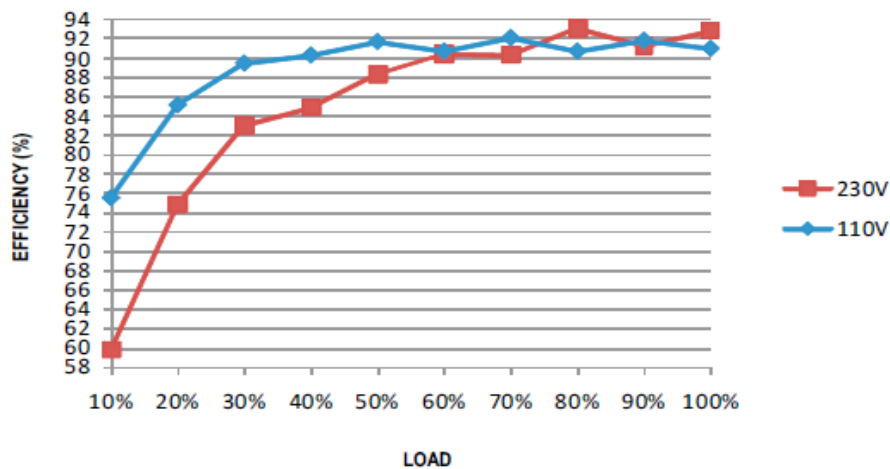
Power Factor Characteristic

Power factor will be higher than 0.9 when output loading is 75% or higher.

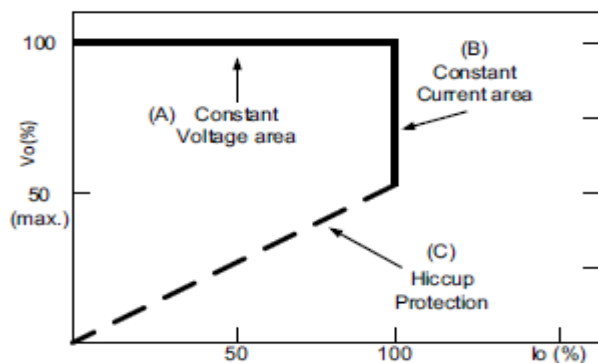


EFFICIENCY vs LOAD (48V Model)

PLP-45 series possess superior working efficiency that up to 89% can be reached in field applications.



DRIVING METHODS OF LED MODULE



Typical LED power supply I-V curve