

## Open-frame Power Supply with Single Output and PFC 250W



- Wide voltage input (90-264VAC)
- Dimensions: 101.6\*50.8\*30mm
- Can be installed in CLASS I CLASS II systems
- Protection types: Short circuit/Overload/Overvoltage
- Natural air cooling, operating temperature range: -40°C to +80°C
- Isolation voltage: 3kV
- 100% high-temperature aging and testing
- 3-year warranty

### Models

Model	Input Voltage	Rated Power	Output	Rated Current	Ripple Current	Efficiency
PSFC250-12	90-264VAC	250W	12V	20.83A	120 mV P-P	91%
PSFC250-15	90-264VAC	250W	15V	16.67A	120 mV P-P	91%
PSFC250-24	90-264VAC	250W	24V	10.41A	240 mV P-P	92%
PSFC250-27	90-264VAC	250W	27V	9.26A	240 mV P-P	93%
PSFC250-29	90-264VAC	250W	29V	8.62A	240 mV P-P	93%
PSFC250-36	90-264VAC	250W	36V	6.94A	240 mV P-P	93%
PSFC250-48	90-264VAC	250W	48V	5.20A	240 mV P-P	93%
PSFC250-54	90-264VAC	250W	54V	4.63A	240 mV P-P	93%

1. Models with the suffix "G" are of the semi-potting type.
2. Products with the suffix "C" are models with a housing.

# Product Datasheet

## Input Specifications

Parameter	Min.	Typ.	Max.	Note
Input Voltage Range(AC)	90Vac	-	264Vac	
Nominal Input Voltage	100Vac	-	240Vac	
Power Factor	0.95	-	-	230Vac Full load
	0.98	-	-	115Vac Full load
Input Current	-	2.5A	-	100Vac Full load
	-	1.3A	-	240Vac Full load
Inrush Current	-	30A	-	115Vac Full load
	-	60A	-	230Vac Full load
Leakage Current	-	0.75mA	-	230VAC/60Hz

## Output Specifications

Parameter	Min.	Typ.	Max.	Note
Output Voltage Accuracy	-	±1.0%	-	Full load
Line Regulation	-	-	±1.0%	Full load
Load Regulation	-	-	±1.0%	10-100% Load
Output Voltage Range	11.7V	-	12.4V	PSFC250-12
	14.3V	-	15.8V	PSFC250-15
	22.9V	-	24.8V	PSFC250-24
	26.5V	-	27.8V	PSFC250-27
	26.8V	-	29.6V	PSFC250-29
	33.5V	-	38.0V	PSFC250-36
	45.2V	-	53.5V	PSFC250-48
	51.2V	-	56.0V	PSFC250-54
Start-Up Time	-	-	1000mS	230Vac Full load
	-	-	1500mS	115Vac Full load
Rise Time	-	-	50mS	230Vac Full load
	-	-	50mS	115Vac Full load
Hold-Up Time	-	15mS	-	230Vac Full load
	-	5mS	-	115Vac Full load

## General Specifications

Parameter	Min.	Typ.	Max.	Note
Operating Temperature	-40°C	-	+80°C	
Operating Humidity	10% RH	-	85% RH	
Storage Temperature	-40°C	-	+85°C	
Storage Humidity	10% RH	-	85% RH	
Temperature Drift Coefficient	-	0.03%/(0°C -50°C)	-	
Vibration Coefficient	10-500Hz, 2G, 10 minutes per cycle, 60 minutes each for X, Y, Z axes			
MTBF	165K hrs min. MIL-HDBK-217F(25°C)			
Product Dimensions	101.6*50.8*30mm(L*W*H)			
Product Weight	170g			

## Product Datasheet

### Safety&EMC Compliance

Parameter	Standard	Note
Safety Standard	UL62368-1, EN/EN62368-1, IEC62368-1	
Insulation Voltage	I/P-O/P:3KV	
	I/P-FG:2.5KV	
	O/P-FG:0.5KV	
Insulation Resistance	>100M Ohms/500VDC 25°C 70% RH	
Conduction and Radiation	EN55011, EN55032 (CISPR32) CLASS B	
Electrostatic Discharge	IEC/EN 61000-4-2 level 4 Contact ±8kV/Air ±15kV	
Radio Frequency Radiation Immunity	IEC/EN 61000-4-3 level 4 lev3	
Electrical Fast Transient/Burst	IEC/EN 61000-4-4 level 4 4kV	
Surge	IEC/EN 61000-4-5 level 4 Line-to-Line 2kV /Liine-GND 4KV	

Unless otherwise specified, the above data are measured under the conditions of TA=25°C, humidity <75%, nominal input voltage of 230VAC and rated output load.

#### Ripple and Noise Measurement Method

Use the parallel line test method. Meanwhile, a 0.1μF high-frequency ceramic capacitor and a 47μF electrolytic capacitor should be connected in parallel at the terminal, and the measurement should be carried out under a 20MHz bandwidth.

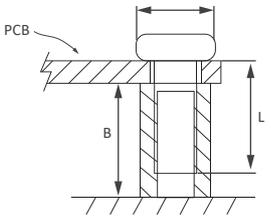
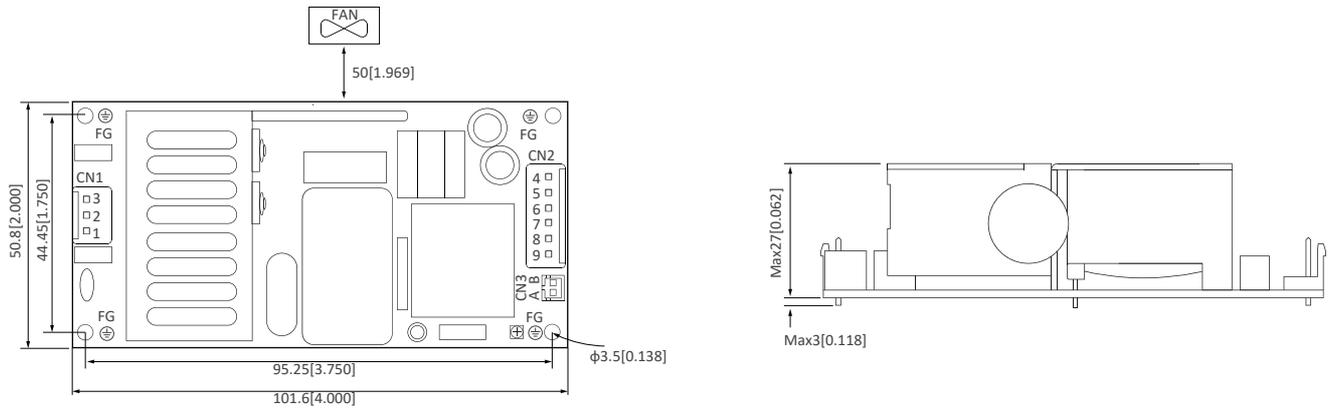
The power supply is regarded as a component within the system, and its electromagnetic compatibility (EMC) verification must be conducted in conjunction with the end equipment.

### Protection Specifications

Parameter	Standard	Note
Short-Circuit Protection	Hiccup Mode, self-recoverable after fault elimination	
Overload Protection	≥110% load, self-recoverable after fault elimination	
Over-Temperature Protectio	Reduced power output or no output	
Overvoltage Protection	Protection Coverage ≤18V	PSFC250-12
	Protection Coverage ≤19.5V	PSFC250-15
	Protection Coverage ≤31.2V	PSFC250-24
	Protection Coverage ≤35V	PSFC250-27
	Protection Coverage ≤50V	PSFC250-29
	Protection Coverage ≤51V	PSFC250-36
	Protection Coverage ≤62V	PSFC250-48
	Protection Coverage ≤72V	PSFC250-54
	Output Shutdown	

# Product Datasheet

## Dimensions & Interface Definition

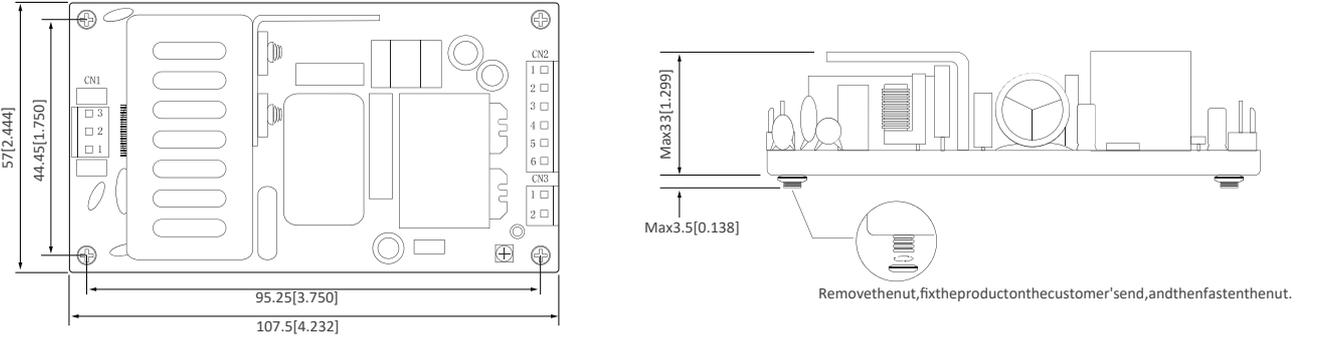


Installation Recommendation: Use M3 screws. As shown in the diagram, the dimensions shall meet:  $A < 5.5\text{mm}$ ,  $B \geq 8\text{mm}$ ,  $L = 6\text{mm}$ . The tightening torque shall not exceed  $0.4\text{N}\cdot\text{m}$ .

Unit of dimension: mm [inch]. Unmarked tolerance:  $\pm 0.5\text{mm}$   
 CLASS I system: Mounting holes marked with  $\oplus$  must be connected to the protective earth (PE)  
 CLASS II system: No requirement for protective earth (PE) connection

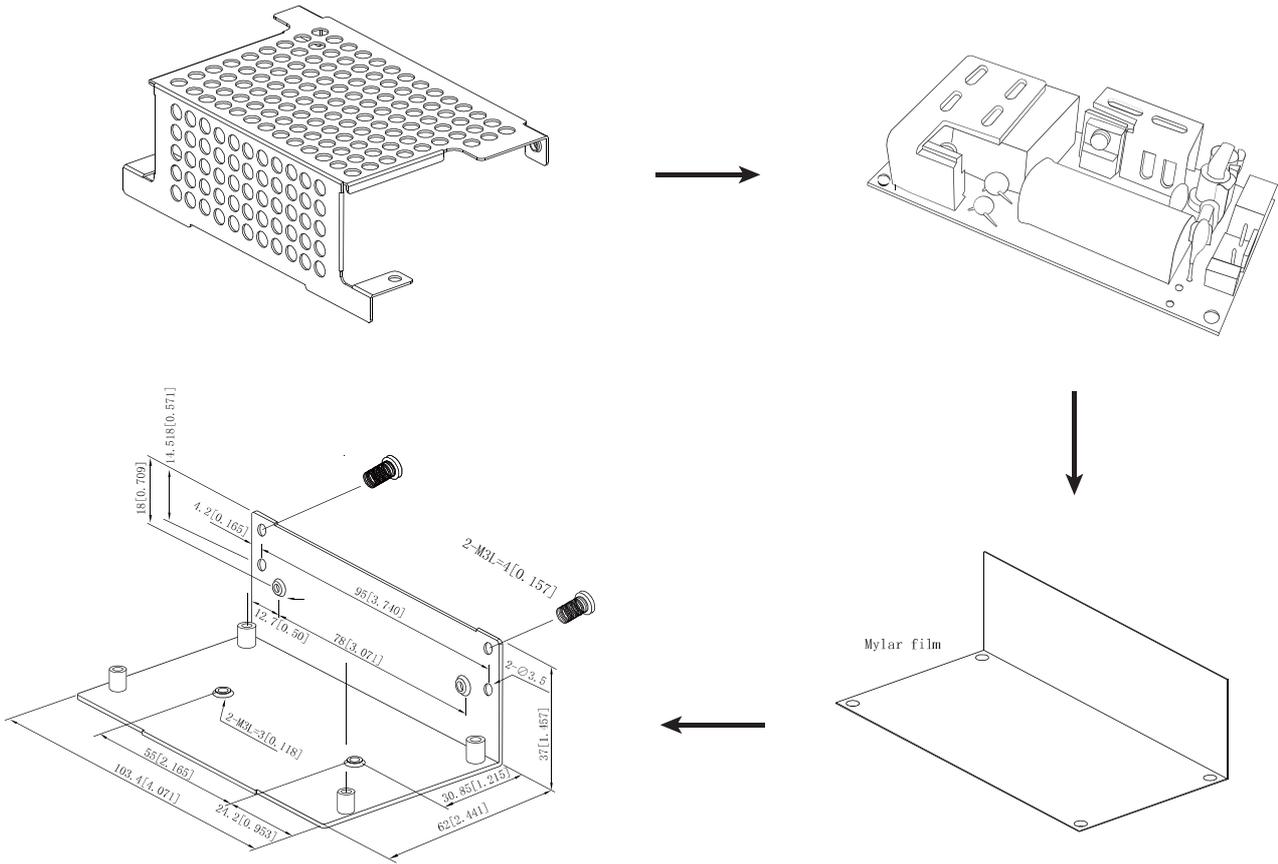
Connector	Pin	Function	Customer Connection Terminal
CN1	1	AC L	Connector: JST VHR Connector Terminal: JST SVH-21T-P1.1 or equivalent
CN1	2	No PIN	
CN1	3	AC N	
CN2	1 2 3	-Vo	Connector: JST VHR Connector Terminal: JST SVH-21T-P1.1 or equivalent
CN2	4 5 6	+Vo	
Temperature Derating Curve			Input Voltage Derating Curve
CN3	A	DC COM	Connector: JST VHR Connector Terminal: JST SVH-21T-P1.1 or equivalent
CN3	B	+12V	

### Dimension Drawing of Semi-Potting Type



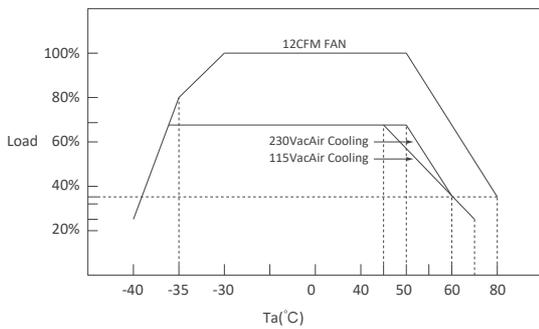
# Product Datasheet

## Cased Type Dimension Drawing



## Electrical Curve

Temperature Derating Curve



Input Voltage Derating Curve

