

## Open-Frame Single-Output AC Power Supply 45W



- Wide voltage input (85-264VAC, 100-370VDC)
- Dimensions: 76.2\*50.8\*30mm, 3"\*2"
- Can be installed in CLASS I CLASS II systems
- Protection types: Short circuit/Overload/Overvoltage
- Natural air cooling, operating temperature range: -40°C to +70°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
PSF45-05S	85-264VAC	45W	5V	9A	80 mV P-P	85%
PSF45-12S	85-264VAC	45W	12V	3.75A	100 mV P-P	89%
PSF45-15S	85-264VAC	45W	15V	3A	100 mV P-P	90%
PSF45-24S	85-264VAC	45W	24V	1.87A	100 mV P-P	91%
PSF45-48S	85-264VAC	45W	48V	0.93A	100 mV P-P	91%

# Product Datasheet

## Input Specifications

Parameter	Min.	Typ.	Max.	Note
Input Voltage Range(AC)	85Vac	-	264Vac	
Input Voltage Range(DC)	100Vdc	-	370Vdc	
Nominal Input Voltage	100Vac	-	240Vac	
Input Current	-	700mA	-	115Vac Full load
	-	400mA	-	230Vac Full load
Inrush Current	-	40A	-	115Vac Full load
	-	70A	-	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	4.7Vdc	-	5.5Vdc	PSF45-05S
	11.3Vdc	-	13.5Vdc	PSF45-12S
	13.5Vdc	-	16.5Vdc	PSF45-15S
	22.3Vdc	-	25.7Vdc	PSF45-24S
	45.6Vdc	-	53Vdc	PSF45-48S
Start-Up Time	-	-	2000mS	230Vac Full load
	-	-	3000mS	115Vac Full load
Rise Time	-	-	40mS	230Vac Full load
	-	-	50mS	115Vac Full load
Hold-Up Time	-	-	20mS	230Vac Full load
	-	-	10mS	115Vac Full load

## General Specifications

Parameter	Min.	Typ.	Max.	Note
Operating Temperature	-40°C		+70°C	
Operating Humidity	10% RH		85% RH	
Storage Temperature	-40°C		+105°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	76.2*50.8*30mm (L*W*H)			
Product Weight	99g			

## Product Datasheet

### Safety&EMC Compliance

Parameter	Standard	Note
Safety Standard	IEC62368, EN62368, UL62368	
Insulation Voltage	I/P-O/P:3KV	
	I/P-FG:1.5KV	
	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 / Line-to-Ground 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.

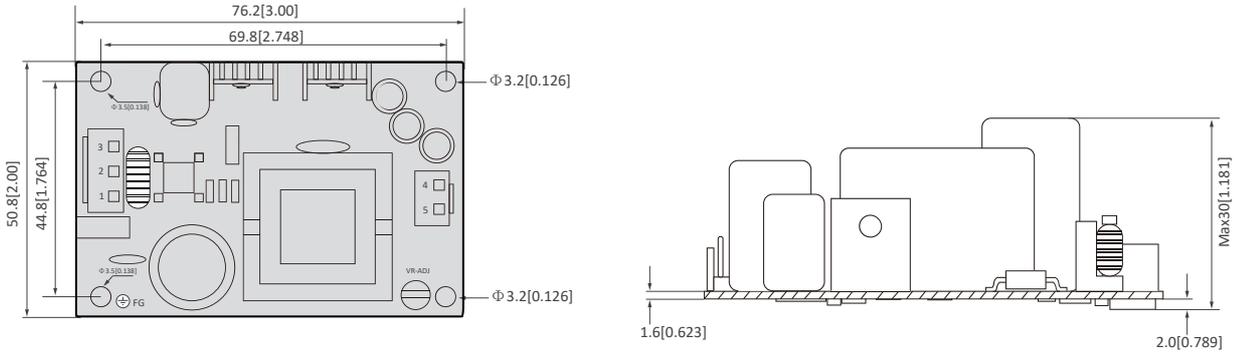
The power supply is regarded as a component within the system, and its electromagnetic compatibility (EMC) verification must be conducted in conjunction with the end equipment.

### 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 ≤7.5V	PSF45-05S
	Protection Coverage ≤16V	PSF45-12S
	Protection Coverage ≤20V	PSF45-15S
	Protection Coverage ≤30V	PSF45-24S
	Protection Coverage ≤60V	PSF45-48S
	Output Shutdown	

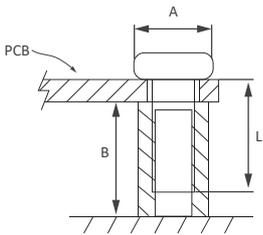
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## Dimensions & Interface Definition



UNIT:mm[inch]

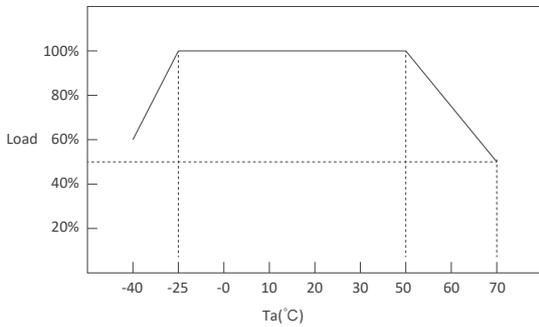
Connector	Pin	Function	Customer Connection Terminal
CN1	1	AC L	Connector: JST VHR Connector Terminal: JST SVH-21T-P1.1 or equivalent
CN1	2	No PIN	
CN1	3	AC N	
CN2	4	-Vo	Connector: JST VHR Connector Terminal: JST SVH-21T-P1.1 or equivalent
CN2	5	+Vo	



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  $0.4\text{N}\cdot\text{m}$ .

## Electrical Curve

Temperature Derating Curve



Input Voltage Derating Curve

