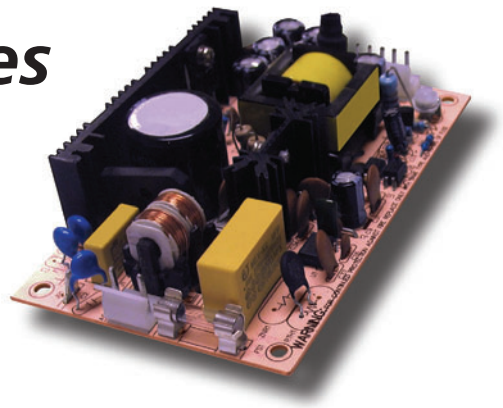
MPO-45S Series

Single Output, 45W Compact, Open Frame AC/DC Power Supplies



Key Features:

- 45W Output Power
- Universal 90-264 AC Input
- EN 60950 Compliant
- Low Leakage Current
- Nine Single Output Models
- Meets EN55022
- >300 kHour MTBF
- Only 5" x 3" x 1.1"

RoHS Compliant

MicroPower Direct

Electrical Specifications

Specifications typical @ +25°C, nominal input voltage & rated output current, unless otherwise noted. Specifications subject to change without notice.

Input

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Range	Universal	90		264	VAC
		127		370	VDC
Input Frequency		47		63	Hz
Input Current	See Model Selection Guide				
Inrush Current	Cold Start, 115 VAC		15.0		A Pk
	Cold Start, 230 VAC		30.0		
Safety Ground Leakage Current	115 VAC		0.5		mA
	240 VAC		0.75		

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage	See Model Selection Guide				
Output Current	See Model Selection Guide				
Output Voltage Adjustment	See Model Selection Guide				
Output Voltage Tolerance, See Note 1	See Model Selection Guide				
Ripple & Noise (20 MHz), See Note 2	See Model Selection Guide				
Hold-Up Time	115 VAC		15		mSec
	230 VAC		60		
Set-Up Time	230 VAC		800		mSec
Rise Time	230 VAC		30		mSec
Temperature Coefficient			±0.02		%/°C
Short Circuit Protection	Continuous (Autorecovery)				
Over Voltage Protection	See Note 3	115		135	%
Overload Protection	See Note 4	118		166	%

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage	Input to Output	3,000			VAC
	Input to Ground	1,500			
	Output to Ground	500			
Isolation resistance	500 VDC		100		MΩ
EMI/RFI	Conducted		EN 55022; EN 61000-3-2, -3		
EMC Compliance	Electrostatic Discharge (ESD)		IEC/EN 61000-4-2, -6, -8, -11		
	RF Field Susceptibility		IEC/EN61000-4-3		
	Electrical Fast Transients/Bursts On Mains		IEC/EN 61000-4-4		
	Surge		IEC/EN 61000-4-5		
Switching Frequency	Fixed		65		kHz

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	-10	+25	+60	°C
Storage Temperature Range		-20		+85	°C
Cooling	Free Air Convection (See Derating Curve)				
Humidity	RH, Non-condensing			95	%

Physical

Size	5.00 x 3.00 x 1.10 Inches (127.0 x 76.2 x 28.0 mm)
Weight	6.7 Oz (0.19 kg)

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 25°C, Gnd Benign	300			kHours
Safety Standards	IEN 60950, IEC 60950				
Vibration	10~500 Hz, 2G 10 min/1 Cycle. Period of 60 min each along X, Y &Z Axis				

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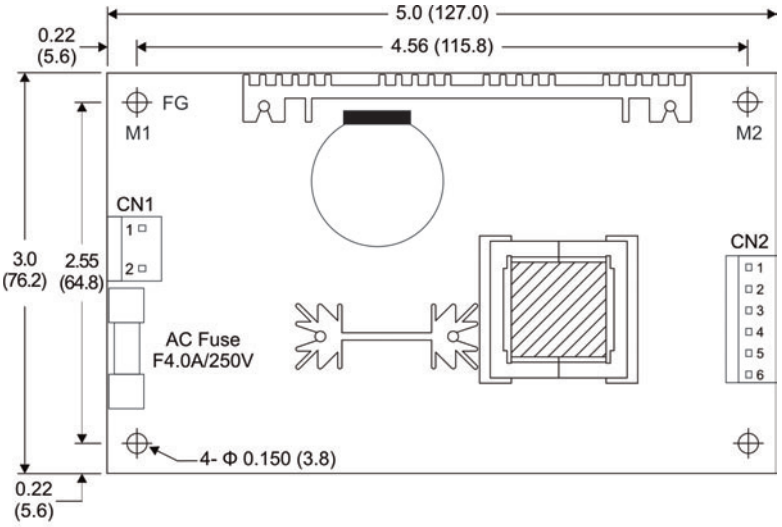
Model Selection Guide

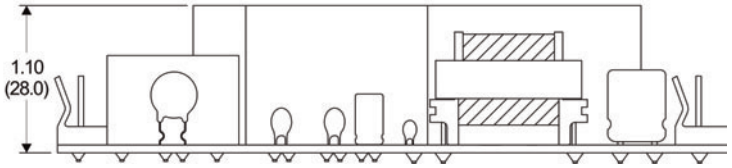
Model Number	Input		Output				Output Tolerance (%)	Ripple & Noise (mV p-p)	Efficiency (%, Typ)
	Current (A)		Voltage (VDC)		Current (A)				
	115 VAC	230 VAC	Rated	Adjust	Rated	Range			
MPO-45S-3.3	0.80	0.56	3.3	3.14 - 3.63	8.0	0 to 10.7	±3.0	80	69
MPO-45S-05	0.80	0.56	5.0	4.75 - 5.5	8.0	0 to 10.5	±3.0	100	74
MPO-45S-7.5	0.80	0.56	7.5	7.13 - 8.25	5.4	0 to 7.0	±3.0	100	75
MPO-45S-12	0.80	0.56	12.0	11.4 - 13.2	3.7	0 to 4.4	±2.0	100	76
MPO-45S-13.5	0.80	0.56	13.5	12.8 - 14.85	3.3	0 to 3.9	±2.0	100	77
MPO-45S-15	0.80	0.56	15.0	14.25 - 16.5	3.0	0 to 3.5	±2.0	100	77
MPO-45S-24	0.80	0.56	24.0	22.8 - 26.4	1.9	0 to 2.2	±2.0	100	78
MPO-45S-27	0.80	0.56	27.0	25.65 - 29.7	1.7	0 to 1.95	±2.0	100	78
MPO-45S-48	0.80	0.56	48.0	45.6 - 52.8	1.0	0 to 1.1	±2.0	100	78

Notes:

1. Output voltage tolerance includes the the effects of set point accuracy, line regulation and load regulation.
2. Ripple and noise is measured at 20 MHz bandwidth using a 12 inch twisted pair wire to connect to the power supply terminals. A 0.1 μF and a 47 μF capacitor are connected in parallel as close to the power supply terminals as possible.
3. Overvoltage protection is provided by a "hiccup mode" circuit. The unit recovers automatically when the fault condition is removed.
4. Overload protection is provided by a foldback current limiting circuit. The unit recovers automatically when the fault condition is removed. For the 3.3V output model, overload protection is set to operate between 36 to 55W.
5. Mounting holes M1 and M2 should be grounded for EMI purposes.
6. It is recommended that a fuse be used on the input of a power supply for protection. See the mechanical diagram for the correct rating.

Mechanical Dimensions





Pin Connections: CN1 (Molex 5277-02 or equiv.)

Pin	Function	Mating Housing	Terminal
1	AC-Neutral	Molex 5195 or Equiv.	Molex 5194 or Equiv.
2	AC-Line		

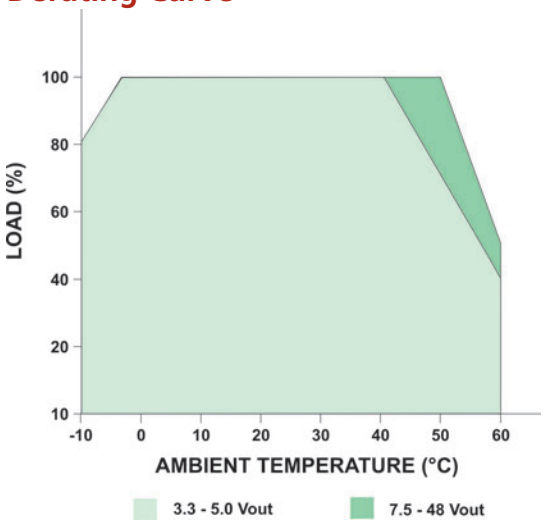
Pin Connections: CN2 (Molex 5273-06 or equiv.)

Pin	Function	Mating Housing	Terminal
1, 2, 3	+Vout	Molex 5195 or Equiv.	Molex 5194 or Equiv.
4, 5, 6	-Vout		

Notes:

- All dimensions are typical in inches (mm)
- Tolerance x.xx = ±0.01 (±0.25)

Derating Curve



Static Characteristics