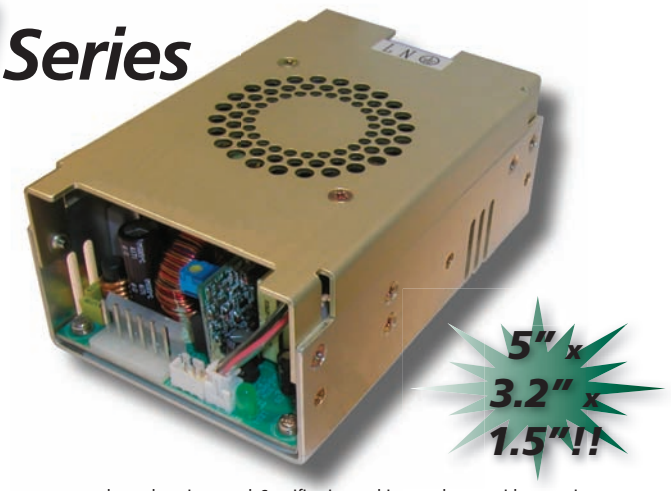
MPA250D Series

Smallest 1U 250W Dual Output Power Factor Corrected AC/DC Power Supplies



Key Features:

- Smallest 1U 250W Supply
- Dual Outputs
- PFC to EN61000-3-2 "A"
- UL, cUL, TUV Approvals
- CE Certified
- FCC Class B Emissions
- 2 - 60 V Output Voltages
- Auto Selectable AC Input
- 600W Peak Power
- Four Mechanical Options

CE

c UL us

BAUART GEPRÜFT TÜV Rheinland Product Safety TYPE APPROVED

CB

RoHS

PFC PASSIVE

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µPd

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	Autoranging	90		132	VAC
		180		264	
Input Frequency		47		63	Hz
Input Current, Full Load	110 - 120 VAC		6		A
	200 - 240 VAC		3		
Inrush Current, Cold Start	110 VAC			35	A
	220 VAC			70	
Leakage Current (Note 1)	240 VAC		1.5		mA
Power Factor Correction	Meets EN61000-3-2 Class A				
Input Protection	T6A/250V Fuse				

Output

Parameter	Conditions	Min.	Typ.	Max.	Units
Output Voltage Adjustment	By Trim Pot		±5.0		%
Output Regulation (Note 2)			±1.0		%
Hold Time	110 VAC, 80% Load		20		mSec
Ripple & Noise (20 MHz) (Note 3)	See Model Selection Guide				
Overload Protection	Fold Back	110		140	%
Over Voltage Protection	>130% of Rated Output Voltage. Recycle AC Input.				
Over Temperature Protection	Autorecovery		+85		°C
Temperature Coefficient			±0.04		%/°C
Transient Recovery Time (Note 4)	50% Load Change		2.5		mS
Transient Response Deviation			5		%
Overshoot/Undershoot	At Turn On/Off			±5.0	%
Turn On Delay	120 VAC			1	S
Output Short Circuit	Continuous With Autorecovery				

General

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation Voltage (Note 5)	Input - Output	3,000			VAC
	Input - FG (Frame Ground)	1,500			
	Primary - Core	1,500			
Switching Frequency	Fixed		24		kHz

Interface Signals

Power Supply On	Green LED (LED1) on the PCB
Power Good Signal	PG on CN1. Goes TTL high 100 to 500 mS after regulation. Goes low at least 1 mS before the loss of regulation. Will sink 6 mA.
Remote On/Off	RMSW on CN1. A TTL low signal inhibits the output. Hiccup mode.

Environmental

Parameter	Conditions	Min.	Typ.	Max.	Units
Operating Temperature Range	Ambient	0	+25	+50	°C
Output Derating	2.5%/ °C from +50 °C to + 70 °C				
Storage Temperature Range		-20		+85	°C
Cooling	See Model Selection Guide				
Operating Humidity	RH, Non-condensing			90	%

Reliability Specifications

Parameter	Conditions	Min.	Typ.	Max.	Units
MTBF	MIL HDBK 217F, 30°C, Gnd Benign	100			kHours
Safety Standards	UL 60950; CSA C22.2 No. 60950; TUV EN60950; CB Report (IEC 60950)				
EEMI Compliance	Compliance to EN55022 (CISPR22) Class B; EN61000-3-2,3				
EMS Immunity Compliance	EN6100-4-2,3,4,5,6,8,11; EN55024,; CE Marked (LVD)				

Model Selection Guide

Model Number	Output Voltage Factory Set		Max. Output Current (Note 7) 16 CFM (U/w Air, F)	Max. Output Current (Note 7) Convection (U)	Ripple & Noise	Efficiency (Note 7)
MPA250Dx-0312zz	V1	3.3 VDC	24.00A	12.00A	50 mV p-p	70%
	V2	12 VDC	12.00A	7.00A	±1% p-p	70%
MPA250Dx-0324zz	V1	3.3 VDC	24.00A	12.00A	50 mV p-p	70%
	V2	24 VDC	6.00A	4.00A	±1% p-p	70%
MPA250Dx-0512zz	V1	5 VDC	24.00A	12.00A	±1% p-p	70%
	V2	12 VDC	12.00A	7.00A	±1% p-p	70%
MPA250Dx-0524zz	V1	5 VDC	24.00A	12.00A	±1% p-p	70%
	V2	24 VDC	6.00A	4.00A	±1% p-p	70%
MPA250Dx-0548zz	V1	5 VDC	24.00A	12.00A	±1% p-p	70%
	V2	48 VDC	3.00A	2.00A	±1% p-p	70%
MPA250Dx-1224zz	V1	12 VDC	12.00A	7.00A	±1% p-p	70%
	V2	24 VDC	6.00A	4.00A	±1% p-p	70%

Notes:
1. Models are available with leakage current specified as low as 500 µA (at 240 VAC) / 300 µA (at 120 VAC). Contact the factory for details.
2. Output regulation includes line & load.
3. Ripple & noise is measured from 10 Hz to 20 MHz. Connection to the unit is made with a 0.1 µF ceramic capacitor & a 22 µF electrolytic capacitor connected in parallel.
4. Transient recovery is measured to within a 1% error band for Iout equals 50 to 100%.
5. Isolation specifications are production HI-Pot tested for 3 seconds.
6. With 16 CFM (or the internal fan), the maximum continuous output power level (combined V1 & V2) is 250W for the MPA250Dx-1224zz (200W for other models). other models). With convection cooling, the the maximum continuous output power level (combined V1 & V2) is 135W for the MPA250Dx-1224zz (100W for other models). For more information, contact the factory.
   Units will provide peak power of 600W for 500 µS. For units capable of longer durations, contact the factory.
7. A 10% minimum load is required to maintain regulation and ripple specifications.

Input Connector CN3: Mating Molex Part No. 09-91-0500 or equivalent (5 pin, 3 used) PCB is Labeled: L = Line; N = Neutral; G = Chassis Ground. Mating Pins; Molex Engineering Series 2478, 2578, 8818 or Howder M3. 3 pin Terminal block 6.35MM Center (HD-601-3P).

Output Connector CN2: Mating Molex Part No. 09-91-0800. Mating Pins: Molex Engineering Series 2478, 2578, 8818. or Howder M4. 3 pin Terminal block 8.25MM Center (HD-819-3P) Mating JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

Output Pin Assignment:

Howder	Molex
Pin 1: V2	Pin 1~ 3: V2
Pin 2: Common	Pins 4 ~ 5: Common
Pin 3: V1	Pins 6 ~ 8: V1

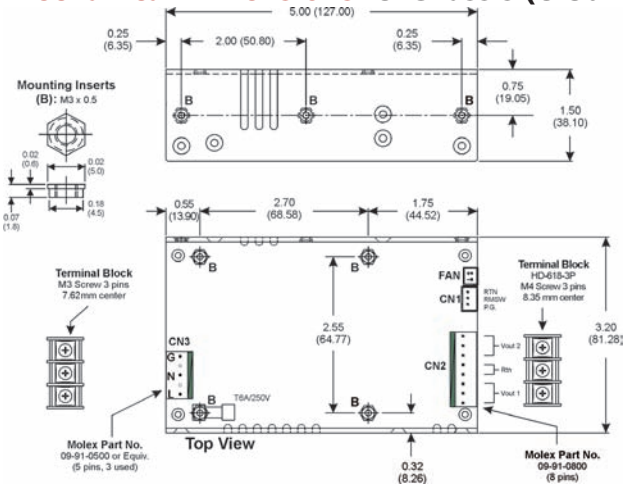
Logic Signal Connector CN1: Mating JST XHP-3 or equivalent (CHYAO SHIUNN JS-21001-03). Mating Pins: JST SXH-002T-P0.6 for AWG 30 to 26.

Logic Signal Pin Assignment:

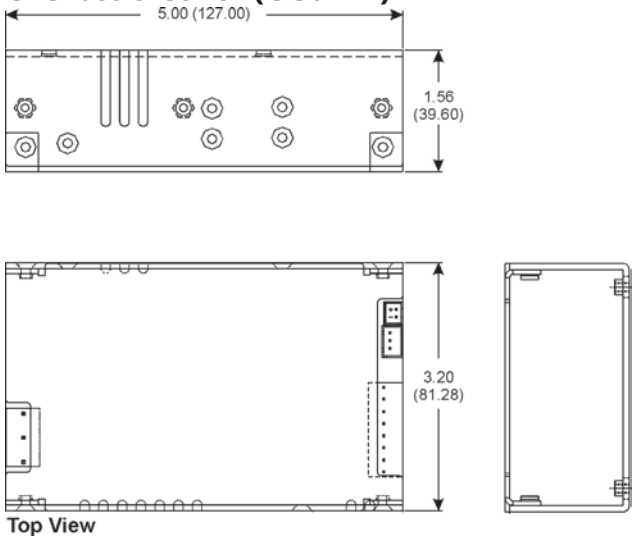
Pin	Function
1	Power Good
2	Remote On/Off
3	Common

Fan Drive Connector (FAN): 12 VDC/300 mA is available to drive an external fan. Mating JST Part No. XHP-2 or equivalent (CHYAO SHIUNN JS-2001-02).

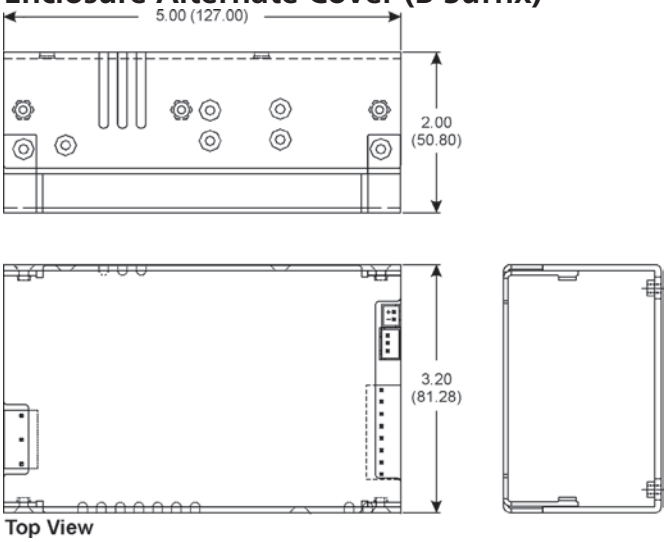
Mechanical Dimensions: U-Chassis (U Suffix)



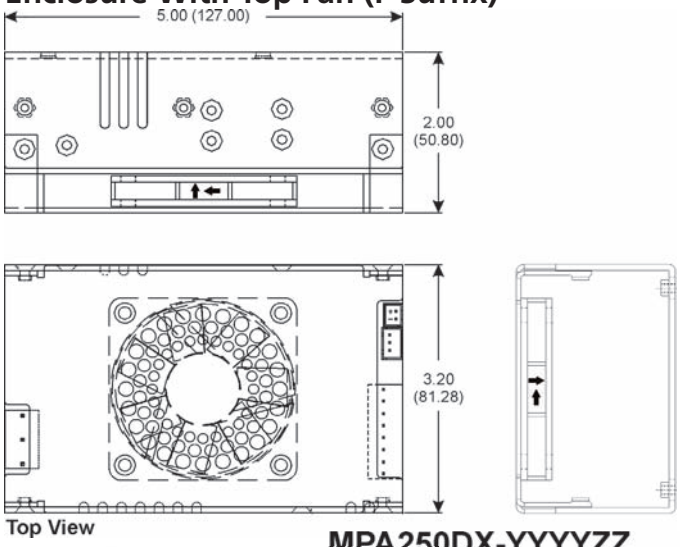
U-Chassis Cover (C Suffix)



Enclosure Alternate Cover (B Suffix)



Enclosure With Top Fan (F Suffix)



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