



FEATURES

- 120W compact high density
- 2" x 4" standard footprint
- High efficiency up to 91%
- Universal AC input with active PFC
- Low profile - 1U package
- Convection-cooled operation up to 75W
- RoHS compliant

DESCRIPTION

The MVAB120 series switching power supplies utilize advanced component and circuit technologies to deliver high efficiency. Designed for Telecom and Industrial applications to satisfy 1U height design considerations, the MVAB120 Series measures only 2.0" x 4.0" x 1.35". All models offer universal AC input with active power factor correction (PFC) and compliance to worldwide safety and EMC standards.

ORDERING GUIDE

Model Number	Natural Convection Cooling	Forced Air Cooling	Main Output (V1)
MVAB120-12	75W	120W @ 250LFM	12V
MVAB120-24			24V
MVAB120-48			48V

INPUT CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Input Voltage Operating Range	Single phase	90	120/230	264	Vac
	DC	120		300	Vdc
Input Frequency		47	50/60	63	Hz
Turn-on Input Voltage	Input rising at 75W	76		85	Vac
Turn-off Input Voltage	Input falling at 75W	50			
Input Current	90Vac input, full load			1.9	A
Inrush Current	At 264Vac, at 25°C cold start			75	Apk

OUTPUT CHARACTERISTICS

Model Number	Main Output Voltage (V1)	Load Current	Load Capacitance	Line, Load, Cross Regulation	Typical Efficiency @230Vac full load
MVAB120-12	12V	0 to 10.0A	0 to 3300µF	± 2%	88%
MVAB120-24	24V	0 to 5.0A	0 to 1000µF	± 2%	90%
MVAB120-48	48V	0 to 2.5A	0 to 1000µF	± 2%	91%

Main Output Characteristics (all models)

Parameter	Conditions	Min.	Max.	Units
Transient Response	50% load step, 1A/µsec slew rate		± 5	%
Settling Time to 1% of Nominal	MVAB-120-12		750	µsec
	MVAB-120-24, MVAB120-48		500	µsec
Turn On Delay	After application of input power		1	sec
Output Voltage Rise	Monotonic, 0 to 75W		50	msec
Setpoint Accuracy	120Vac, 75W, 25°C		± 0.5	%
Output Holdup	Full load	14		msec
Temperature Coefficient			0.02	%/°C
Ripple Voltage & Noise ¹			1	%

¹ Ripple and noise are measured with 0.1 µF of ceramic capacitance and 47 µF of electrolytic capacitance on each of the power supply outputs. The output noise requirements apply over a 0 Hz to 20 MHz bandwidth. A short coaxial cable with 50ohm scope termination is used.

² Unless other specified all readings are taken at 120Vac input and 25 °C ambient temperature.



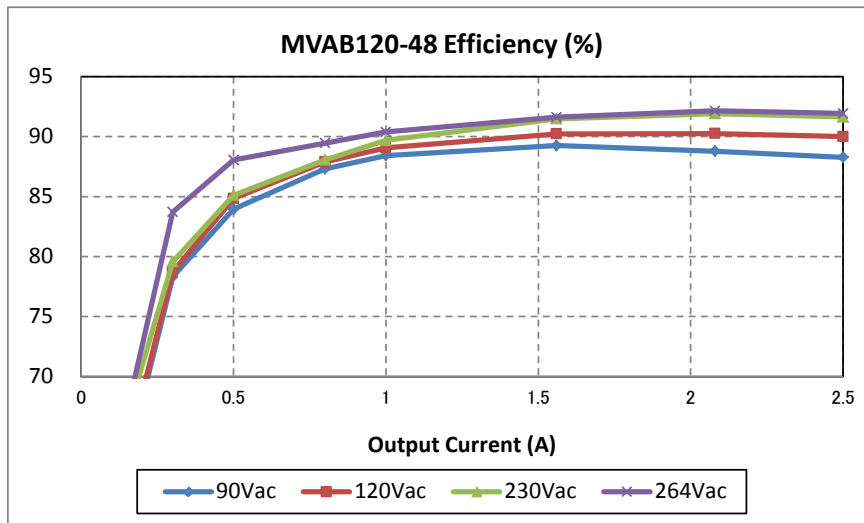
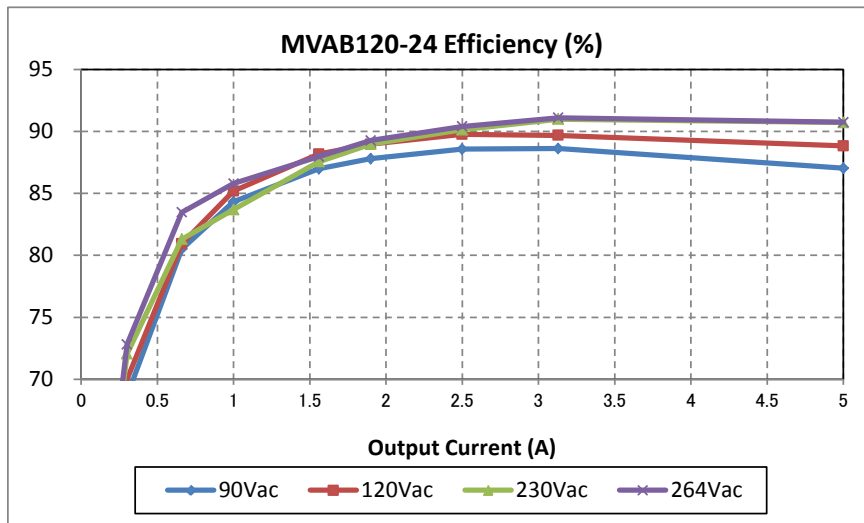
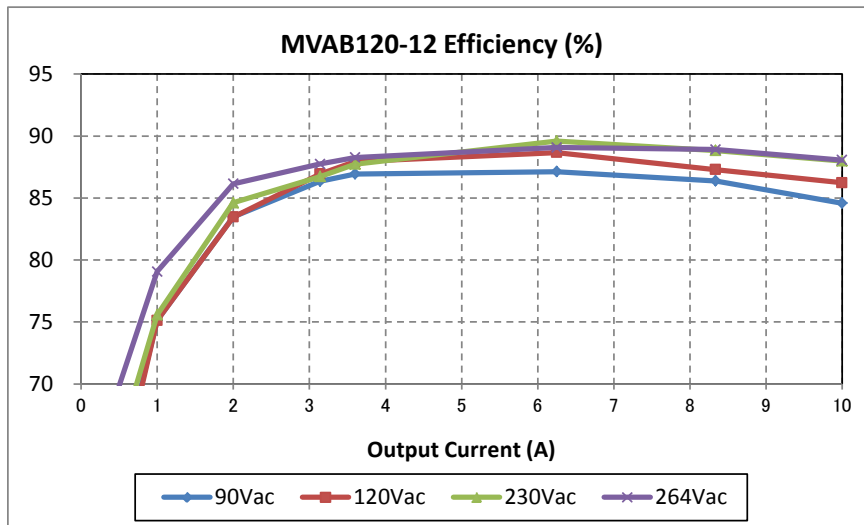
ENVIRONMENTAL CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Storage Temperature Range		-40		85	°C
Operating Temperature Range	Full load	-10		50	
	50% load	-10		70	
	Start up	-20			
Operating Humidity	Non-condensing	10		95	%
Operating Altitude	Without derating	-200		3000	m
MTBF	Telcordia SR-322 M1C3 25°C	1M			Hours
Shock	Operating, IEC60068-2-27, half-sine 5G, 6ms, 3 times per face, 6 faces	Complies			
	Non-operating, IEC60068-2-27, half-sine, 30G, 18ms, 3 times per face, 6 faces	Complies			
Vibration	Operating, IEC60068-2-6, Random 1.0G, 10-150Hz, 10minutes per axis, on all 3 axes	Complies			
	Non-operating, IEC60068-2-6, Random 2.0G, 10-150Hz, 10minutes per axis, on all 3 axes	Complies			
Safety	IEC60950-1:2005 2nd Ed. UL60950-1 2nd Ed., 2007-03-27 & CSA C22.2 No. 60950-1-07, 2nd Ed., 2007.03 EN60950-1:2006+A11:2009 CE Marking per LVD				
Warranty	2 years				
Outside Dimensions	2.0" x 4.0" x 1.35" (50.8mm x 101.6mm x 34.3mm)				
Weight	MVAB120-12	0.34lbs (155g) typical			
	MVAB120-24, MVAB120-48	0.36lbs (165g) typical			

PROTECTION CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Over Voltage Protection	Latching	110		160	%V1
Over Current Protection	Hiccup mode	105		150	%Amax
Over Temperature Protection	Auto-recovery		Complies		

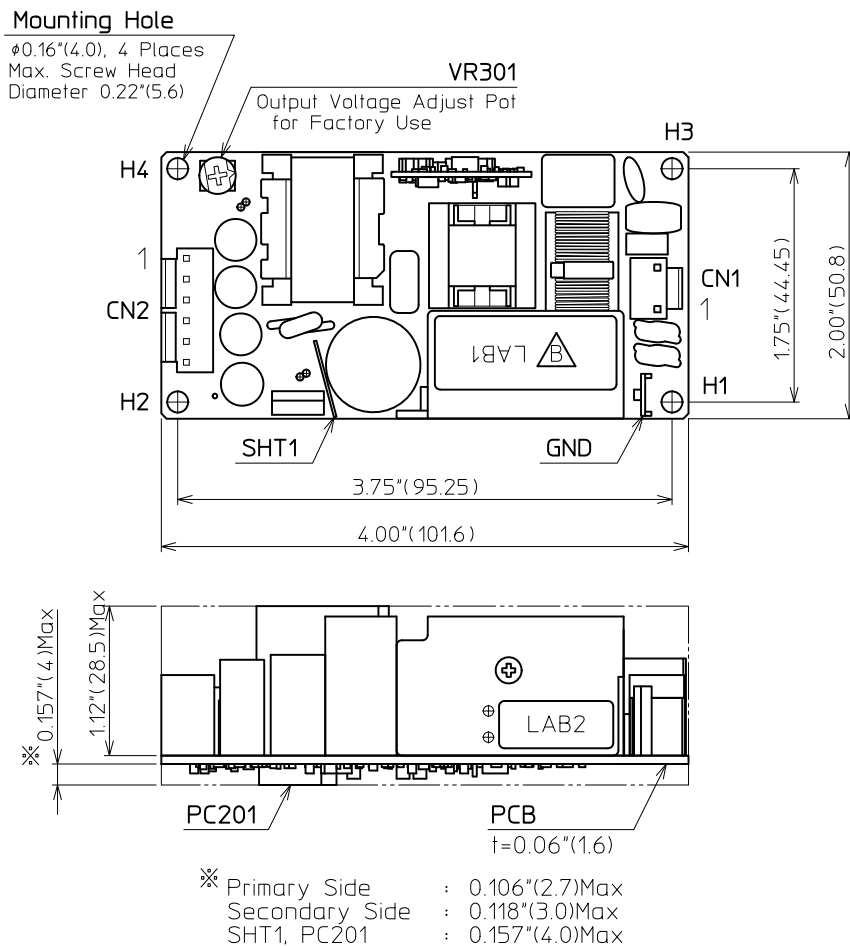
ISOLATION CHARACTERISTICS					
Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation	Primary to Chassis	1500			Vac
	Primary to Secondary	3000			
	Secondary to Chassis	500			Vdc
Leakage Current	264Vac, 60Hz, 25°C		500		µA

EMISSIONS AND IMMUNITY		
Characteristic	Description	Criteria
Harmonics	IEC/EN 61000-3-2	Class A
Voltage Fluctuation and Flicker	IEC/EN 61000-3-3	Compliance
Conducted Emissions	EN 55022	Class B
	FCC Part 15	Class B
ESD Susceptibility	IEC/EN 61000-4-2	Level 4, Criterion A
Electromagnetic Field Susceptibility	IEC/EN 61000-4-3	Level 2, Criterion A
Electrical Fast Transient Susceptibility	IEC/EN 61000-4-4	Level 3, Criterion A
Surge Susceptibility	IEC/EN 61000-4-5	Level 3, Criterion A
RF Conducted Immunity	IEC/EN 61000-4-6	Level 2, Criterion A
Magnetic Field Immunity	IEC/EN 61000-4-8	Level 1, Criterion A

EFFICIENCY PLOTS



MECHANICAL DIMENSIONS



- All dimensions in inches (mm), tolerance is +/-0.02" (0.5mm)
- Mounting holes H1 and H4 should be grounded for EMI purpose
- Mounting hole H1 is safety ground connection
- This power supply requires mounting on standoffs minimum 0.20"(5.0mm) in height

Dimensions: 2.0" x 4.0" x 1.35" (50.8mm x 101.6mm x 34.3mm)

INPUT/OUTPUT CONNECTOR AND SIGNAL SPECIFICATION AND MATING CONNECTORS

PIN	Description	Mating Housing	Crimp terminal/pins
Input Connector CN1 : Molex 26-62-4030			
1	AC Neutral	Molex 09-50-8031 with locking ramp	Molex 6838 Series
3	AC Line		
Spade Connector: #250			
GND	Earth Ground		
Output Connector CN2 : Molex 26-60-4060			
1, 2, 3	DC Return	Molex 09-50-8081 with locking ramp	Molex 6838 Series
4, 5, 6	V1		

Murata Power Solutions, Inc.
 11 Cabot Boulevard, Mansfield, MA 02048-1151 U.S.A.
 ISO 9001 and 14001 REGISTERED



This product is subject to the following **operating requirements** and the **Life and Safety Critical Application Sales Policy**:
 Refer to: <http://www.murata-ps.com/requirements/>

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