

Series AME15-MAZ-E

15 Watt | AC-DC / DC-DC Converter



FEATURES:

- 4000VAC I/O Isolation
- Operating temperature: -40 to +85°C
- Over load, Over Voltage, Short Circuit Protection
- Universal input: 90-264VAC, 47-440Hz
- RoHS compliant
- Soft start
- CE, cULus approvals
- For Industrial Applications



Models Single output

Model	Input Voltage (VAC/Hz)	Input voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μ F)	Efficiency (%)	
						115 VAC	230 VAC
AME15-3.3SMAZ-E	90-264/47-440	130-370	3.3	3	4700	73	73
AME15-5SMAZ-E	90-264/47-440	130-370	5	3	2200	76	78
AME15-12SMAZ-E	90-264/47-440	130-370	12	1.25	1000	78	79
AME15-15SMAZ-E	90-264/47-440	130-370	15	1	680	79	82
AME15-24SMAZ-E	90-264/47-440	130-370	24	0.63	470	82	84

Models Dual output

Model	Input Voltage (VAC/Hz)	Input voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (μ F)	Efficiency (%)	
						115 VAC	230 VAC
AME15-5DMAZ-E	90-264/47-440	130-370	\pm 5	\pm 1.5	\pm 1000	78	79
AME15-12DMAZ-E	90-264/47-440	130-370	\pm 12	\pm 0.63	\pm 470	81	82
AME15-15DMAZ-E	90-264/47-440	130-370	\pm 15	\pm 0.5	\pm 330	82	83

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current	115 VAC		350	mA
	230 VAC		180	mA
Inrush current <2ms (Cold Start)	115 VAC		20	A
	230 VAC		30	A
Leakage current	115 VAC		0.1	mA
	264 VAC		0.1	mA
External Fuse (recommend)	slow blow type	2		A
Input Dissipation	110/230Vac	\leq 0.4		W
Under Voltage Protection		85		VAC
Start-up time			1300	ms

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		\pm 2		%
Line regulation	LL-HL	\pm 1		%
Load regulation (single)	0-100%	\pm 1		%
Cross regulation (dual)**	25% load - 1 st out, 100% load - 2 nd out	\pm 5		%
Transient Recovery Time		300		μ s
Transient Response Deviation	25% load step	\pm 2		% of Vout
Ripple & Noise*	3.3 / 5V Models	75		mVp-p
	12 / 15V Models	100		
	24V	150		
Hold-up time	min	20		ms

* Ripple and Noise are measured at 20MHz bandwidth by using a 0.1 μ F (M/C) and 47 μ F (E/C) parallel capacitor

** The load of each output should be limited to the maximum rated current of each output.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4000	VAC
Isolation resistance		>1000		MΩ

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		132		KHz
Protection class		Class II		
Over load protection	Fold Back	130		%
Over voltage protection		Zener diode clamp		
Short Circuit protection		Continuous		
Short Circuit restart		Auto recovery		
Operating temperature	With derating over 55 °C	-40 to +85		°C
Storage temperature		-40 to +100		°C
Max Case temperature			100	°C
Temperature coefficient		±0.02		% / °C
Cooling	Free air convection			
Humidity			95	% RH
Weight		100		g
Dimensions (L x W x H)	2.56 x 1.83 x 0.83 inches 65.0 x 46.5 x 21 mm, ±0.5mm			
MTBF	> 400,000hrs (MIL-HDBK -217F, t _a +25°C) > 100,000hrs (MIL-HDBK -217F, t _a at highest operating temperature)			
Case material	Plastic (flammability to UL 94V-0)			

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Environment Approval

Parameters	Conditions
Shock	Wave form: Half sine wave
	Acceleration amplitude: 5gn
	Bump duration: 30 ms
	Number of bumps: 18 (3 in each direction for every axis)
	Converter operation before and after test, body mounted (on chassis)
Vibrations	Test mode: Sweep sine
	10-100Hz, speed 0.05Hz/s
	Displacement: 1mm
	Acceleration: 3g
	3 loops 30min one cycle, 3h total, every axis tested Converter operation before and after test, body mounted (on chassis)

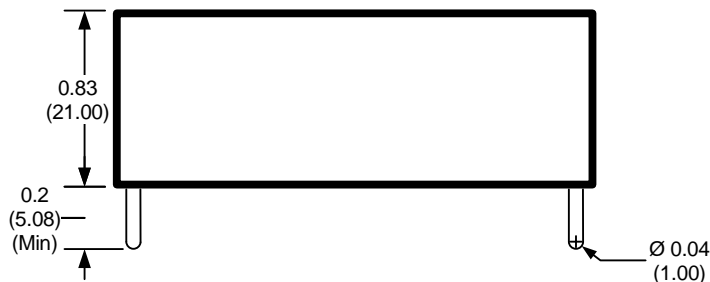
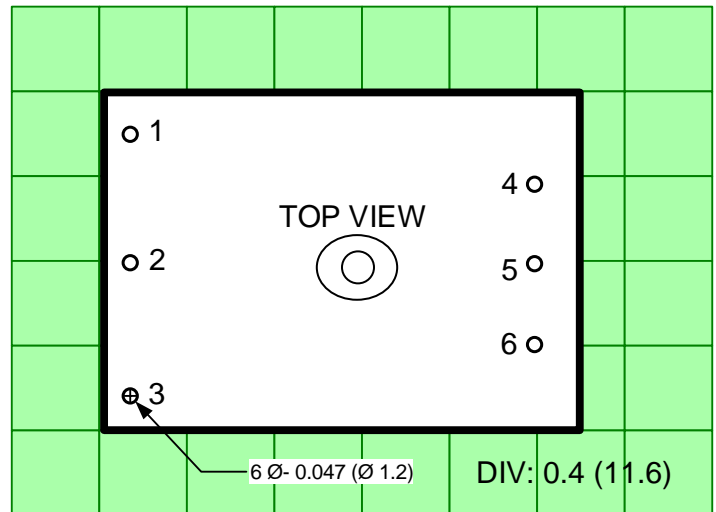
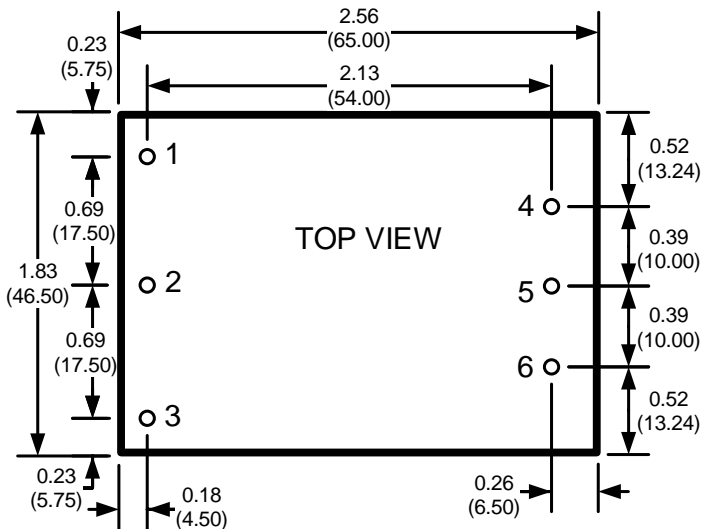
Safety & EMC Specifications


Parameters	
Agency approvals	cULus, CE
Standards	Medical Electrical Equipment
	Information technology Equipment
	EMI - Conducted and radiated emission
	Harmonic Current Emissions
	Voltage fluctuations and flicker
	Electrostatic Discharge Immunity
	RF, Electromagnetic Field Immunity
	Electrical Fast Transient/Burst Immunity
	Surge Immunity
	RF, Conducted Disturbance Immunity
	Power frequency Magnetic Field Immunity
Voltage dips, Short Interruptions Immunity	

Pin Out Specifications

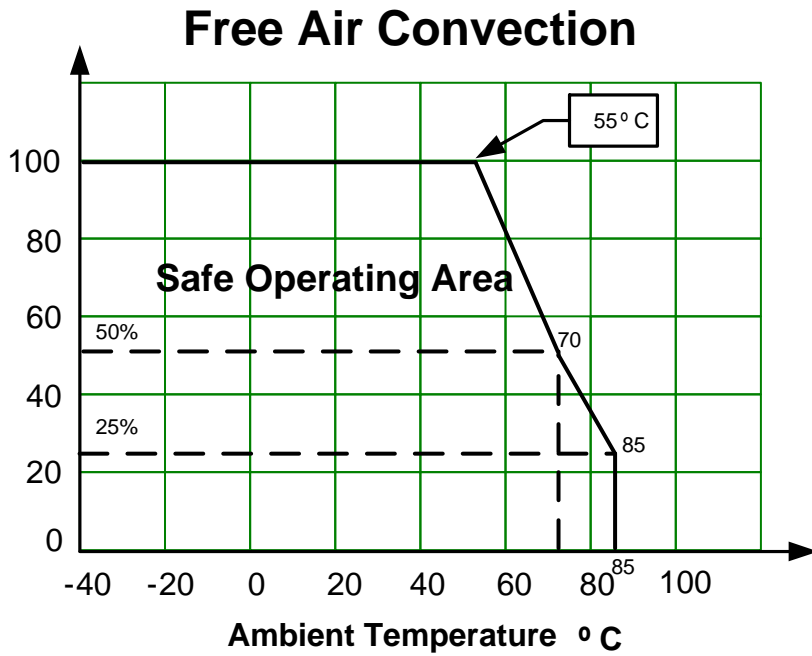
Pin	Single	Dual
1	No pin	No pin
2	AC Input (N)	AC Input (N)
3	AC Input (L)	AC Input (L)
4	-V Output	-V Output
5	No pin	Common
6	+V Output	+V Output

Dimensions (Top View)



Dimensions: inch (mm)
Case Tolerance: ± 0.02 (0.50)
Pin Pitch Tolerance: ± 0.02 (0.50)
 - Case temperature Measurement

Derating



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