

## Series AME25-MJZ

### 25 Watt | AC-DC / DC-DC Converter



#### FEATURES:

- I/O Isolation 4000VAC
- Operating Temp: -40°C to +70°C
- Over current, Over Voltage
- Input: 85-264VAC, 47-440Hz, or 100-370VDC
- Low no load consumption  $\leq 0.1W$
- Continuous Short Circuit Protection
- Up to 89% efficiency



#### Models Single output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load ( $\mu F$ )	Efficiency @230VAC (%)
AME25-5SMJZ	85-264/47-440	100-370	20.5	5	4.10	10,000	82
AME25-12SMJZ	85-264/47-440	100-370	25	12	2.10	5,000	88
AME25-15SMJZ	85-264/47-440	100-370	25	15	1.60	4,000	88
AME25-18SMJZ	85-264/47-440	100-370	25	18	1.40	3,000	88
AME25-24SMJZ	85-264/47-440	100-370	25	24	1.10	1,000	89

\*Output power must not exceed the listed values.

Note: Add suffix "-ST" for optional screw terminal bottom plate. Add suffix "-STD" for optional Din-Rail bottom plate.

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.

#### Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current	115VAC		0.6	A
	230VAC		0.34	A
Inrush current <2ms (cold start)	115VAC	10		A
	230VAC	25		A
Leakage current			0.1	mA
External fuse	slow blow type	3.15		A
Input dissipation	No Load		$\leq 0.1$	W

#### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		$\pm 2$		%
Line regulation	Full load	$\pm 0.5$		%
Load regulation	0-100% load	$\pm 1$		%
Ripple & Noise	20MHz bandwidth	50	100	mV p-p
Hold up time	115VAC	15		ms
	230VAC	80		ms

#### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4000	VAC
Isolation resistance		>1000		M $\Omega$

#### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	65		KHz
Protection class		Class II		
Over current protection	Auto recovery	110		% of Iout
Over voltage protection		Zener Diode Clamp		
Short circuit protection		Continuous		
Short circuit restart		Auto recovery		
Operating temperature	See derating table	-40 to +70		°C

**General Specifications (continued)**

Parameters	Conditions	Typical	Maximum	Units
Maximum case temperature			100	°C
Storage temperature		-40 to +85		°C
Temperature coefficient		±0.02		% / °C
Cooling		Free air convection		
Humidity	Non- condensing		95	% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight	PCB mountable models		120	g
	With optional -ST mounting plate:		170	
	With optional -STD mounting plate:		210	
Dimensions (L x W x H)	PCB mountable models	2.75 x 1.89 x 0.92 inches (70.00 x 48.00 x 23.50mm)		
	With optional -ST mounting plate:	3.78 x 2.12 x 1.26 inches (96.10 x 54.00 x 32.00 mm)		
	With optional -STD mounting plate:	3.78 x 2.12 x 1.44 inches (96.10 x 54.00 x 36.60 mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			

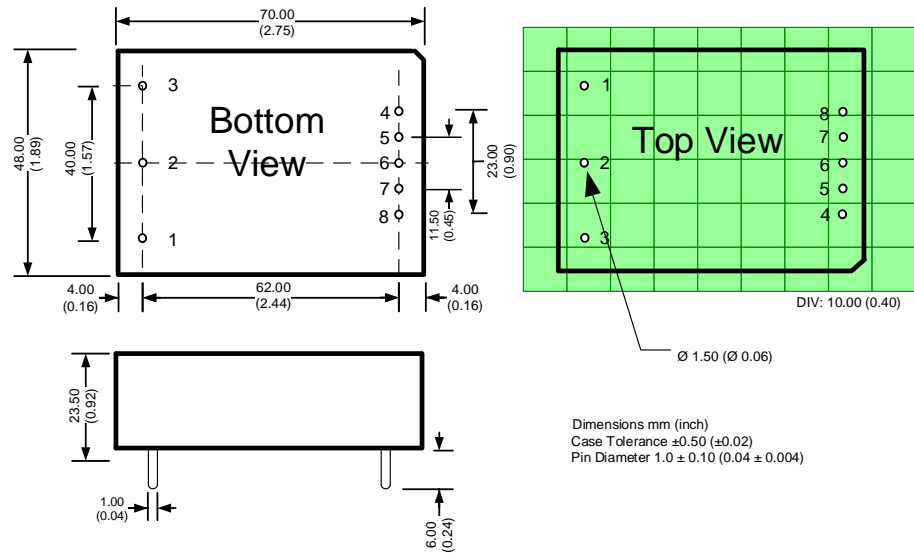
**Safety Specifications**

Parameters		
Standards	Medical Electrical Equipment	Meets IEC/EN/UL 60601-1, 2 x MOPP
	EMI - Conducted and radiated emission	EN55011 and EN55032 class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV/Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV, ±4KV with recommended circuit, Criteria B
	Surge Immunity	IEC 61000-4-5 ±1KV, ±2KV with recommended circuit, Criteria B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vrms, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 0%,70%, Criteria B

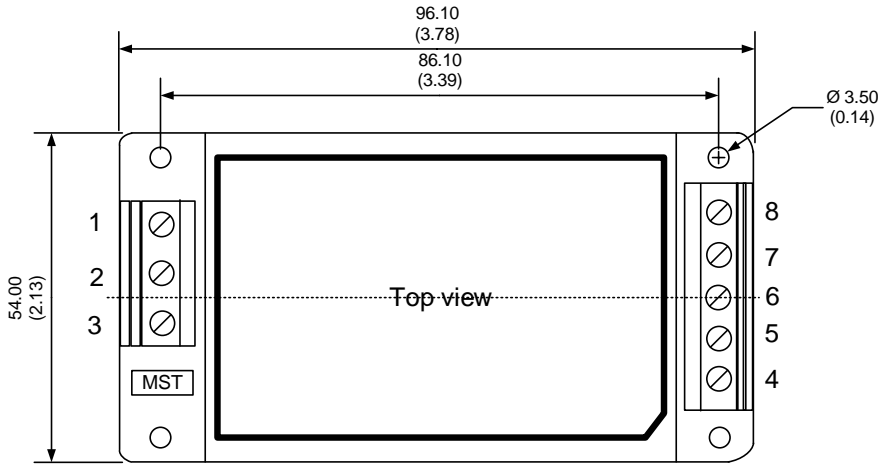
**Pin Out Specifications**

Pin	Single
1	No Pin
2	AC Input (N)
3	AC Input (L)
4	+V Output
5	No Pin
6	No Pin
7	No Pin
8	-V Output

**Dimensions**

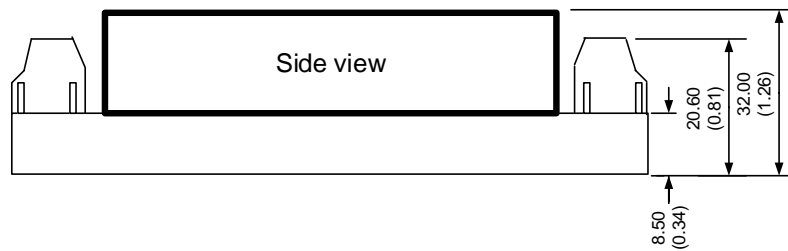


**With optional -ST bottom plate**



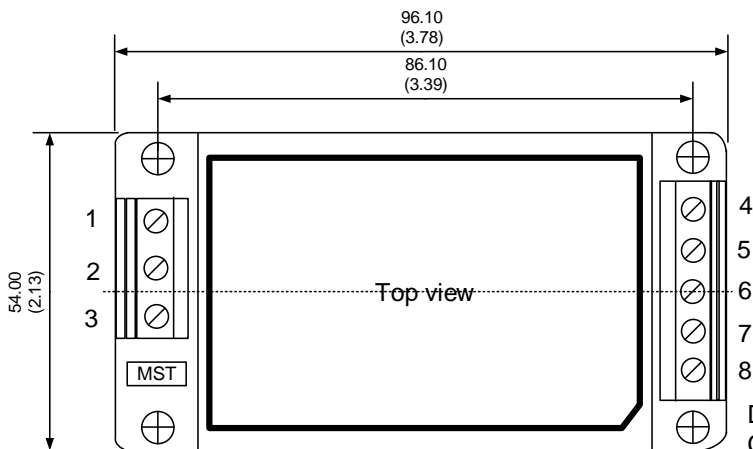
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Dimensions: mm (inch)  
Case Tolerance: ± 0.50 (0.02)  
Wire gauge: 24-12AWG

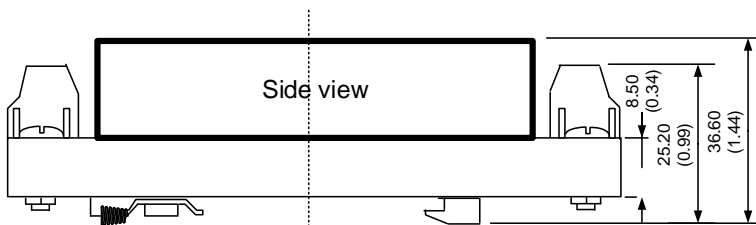
**With optional -STD bottom plate**



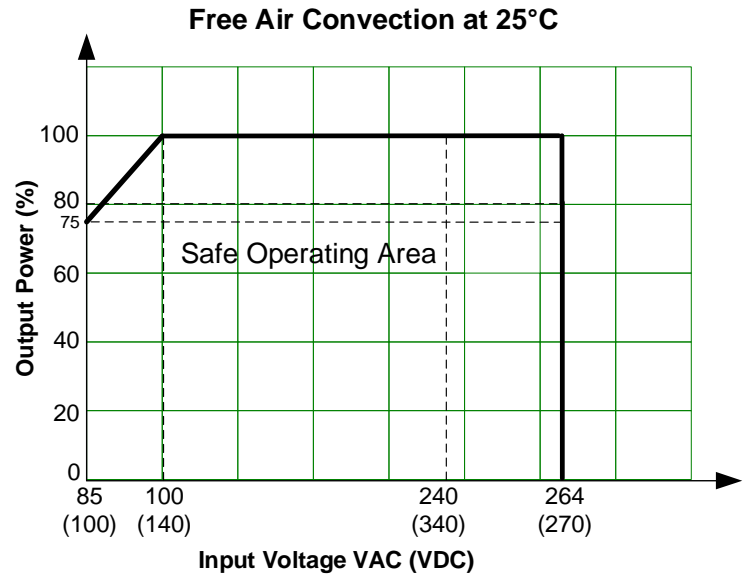
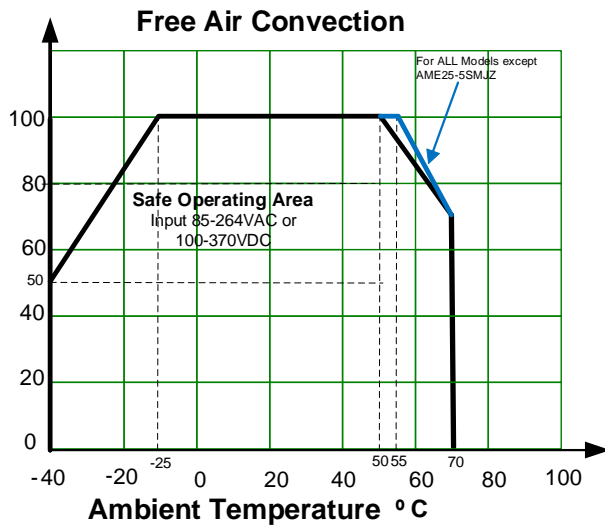
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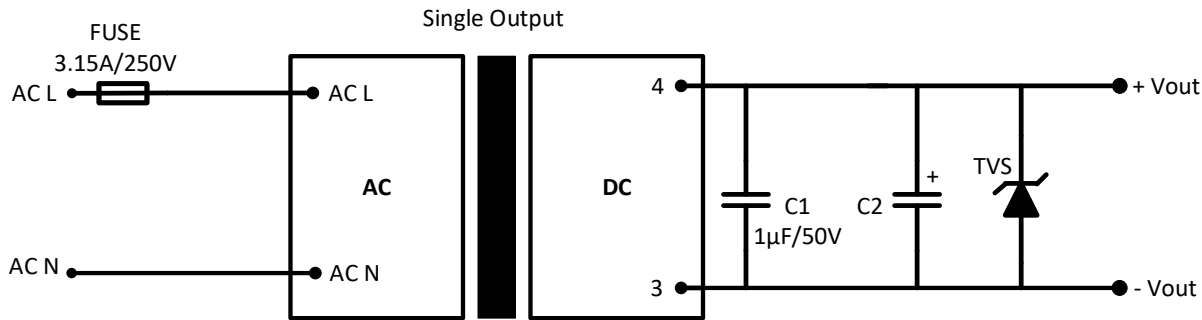
Dimensions: mm (inch)  
Case Tolerance: ± 0.50 (0.02)  
Wire gauge: 24-12AWG  
DIN Rail TS35



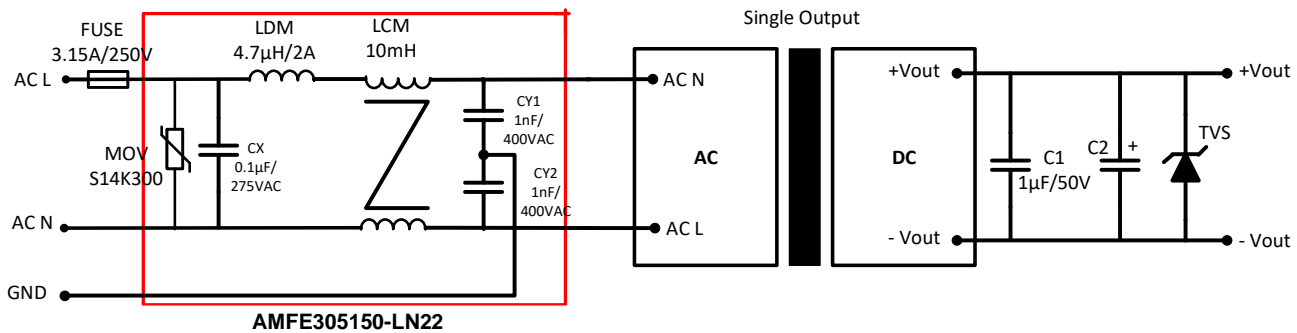
**Derating**



### Typical application circuit



### Recommended circuit for EFT ±4KV, Surge ±2KV



As indicated by the red box Aimtec's AMFE305150-LN22 EMC filter can be used to simplify design for EFT ±4KV, surge ±2KV.

Model	C2	TVS
5,12 & 15 Vout	330 µF	12V
18 Vout	120 µF	30V
24 Vout	68 µF	48V

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