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AMEM5-Y

1 x 1" package

The AMEM5-Y high power density AC/DC converters are available in the small 1x1 inch PCB mountable package, boasting the lowest height profile in the 4000VAC isolation range and a large MTBF.

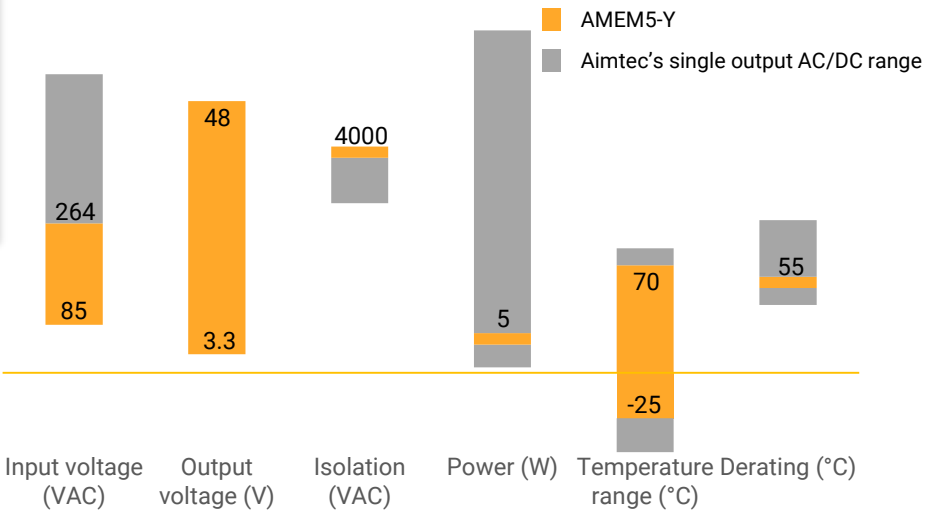
The AMEM5-Y series features a 10,000µF Maximum Capacitance load and many protective features such as over load, over voltage and continuous short circuit protection. Additionally, it offers a no-load power consumption below 0.2W and no minimum load is required for operation within the specified range. These new power converters will simplify industrial and commercial product designs, while increasing their affordability.

Features

- I/O Isolation 4000VAC
- Continuous Short circuit protection
- Operating Temp: -25 °C to +70 °C
- No load power consumption below 0.2W
- Input: 85-264VAC, 47-63Hz, or 120-370VDC
- Compact 1x1 inch package
- Over Load, Over Voltage Protection
- Efficiency up to 77%

Summary

Situating the AMEM5-Y among Aimtec's single output AC/DC converters



Training

Product Training Video (click to open)

Press Release

RoHS Soldering profiles

Application Notes

Applications

Industrial

Automation

Security Systems

Test Equipment

Models & Specifications

Single Output						
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (230VAC) (µF)	Efficiency 230VAC (%)
AMEM5-3.3SY	85-264/47-63	120-370	3.3	1.51	10000	73.6
AMEM5-5SY	85-264/47-63	120-370	5	1.00	7200	73.6
AMEM5-9SY	85-264/47-63	120-370	9	0.55	2200	77.6
AMEM5-12SY	85-264/47-63	120-370	12	0.41	1000	77.6
AMEM5-15SY	85-264/47-63	120-370	15	0.33	820	77.6
AMEM5-24SY	85-264/47-63	120-370	24	0.20	300	77.5
AMEM5-36SY	85-264/47-63	120-370	36	0.135	120	77.5
AMEM5-48SY	85-264/47-63	120-370	48	0.10	100	77.5

Input Specification				
Parameters	Conditions	Typical	Maximum	Units
Current (full load)	115 VAC		110	mA
	230 VAC		60	mA
Inrush current <2ms (cold start)	115 VAC		30	A
	230 VAC		60	A
Leakage current	230VAC/50Hz		0.25	mA
Internal fuse	Slow blow type	1		A
Startup time	115VAC		3	s

Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line regulation	Full load, main input range	±1		%
Load regulation	0-100% load	±1		%
Minimum load	Single output	0		A
Ripple & Noise*	3.3,5,9,12V Output		150	mV p-p
	15,24V Output		250	mV p-p
	36V Output		360	mV p-p
	48V Output		480	mV p-p
Hold-up time	115VAC, 20MHz bandwidth	10		ms
* 20MHz bandwidth with a 0.1uF CC and a 10uF EC				

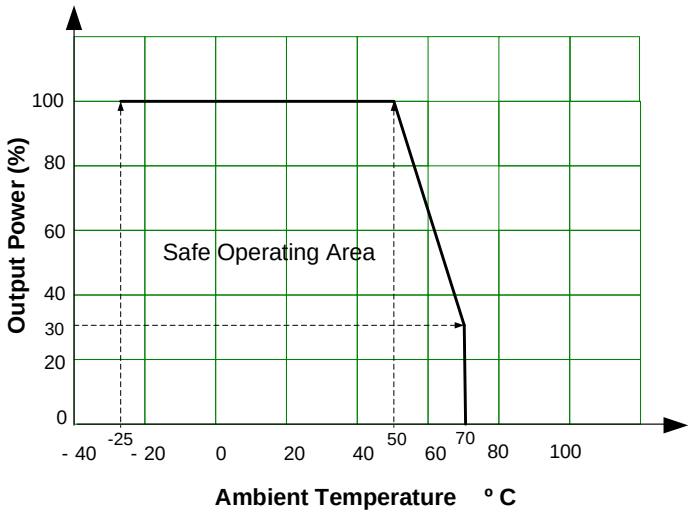
General Specifications				
Parameters	**Conditions**	**Typical**	**Maximum**	**Units**
Switching frequency	Single output		125	KHz
Over Load protection		≥110		% of Iout
Over voltage protection	120-190% rated Vout			
Short circuit protection	Continuous, Auto recovery			
Operating temperature	See derating curve	-25 to +70		ºC
Altitude			3000	m
Storage temperature		-40 to +85		ºC
Storage altitude			5000	m
Maximum Case temperature			100	ºC
Temperature coefficient		±0.05		% / ºC
Cooling	Free air convection			
Humidity	Non-condensing		95	% RH
Case material	Plastic (flammability to UL 94V-0)			
Weight		18.5		g
Dimensions (L x W x H)	1.00 x 1.00 x 0.60 inches 25.4 x 25.4 x 15.2 mm			
MTBF	> 860,000 hrs (MIL-HDBK -217F, t=+25ºC) / Full Load			

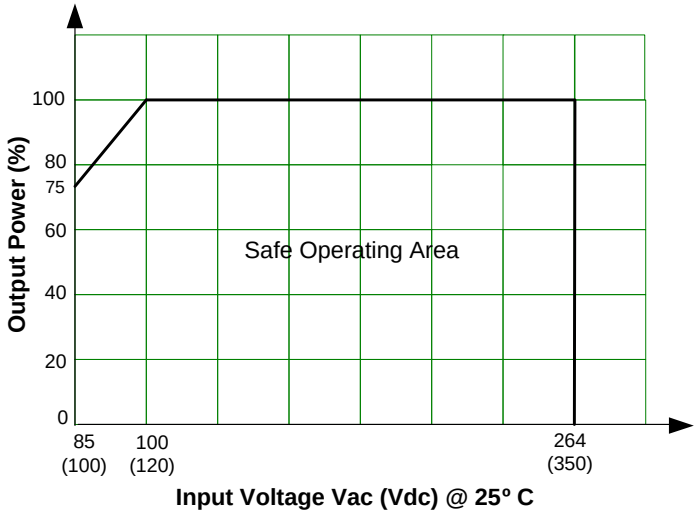
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25˚C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Environmental Specifications		
Vibration	Test mode	10-500Hz
	Acceleration	2G, 10min one cycle, every axis tested, 60min total duration

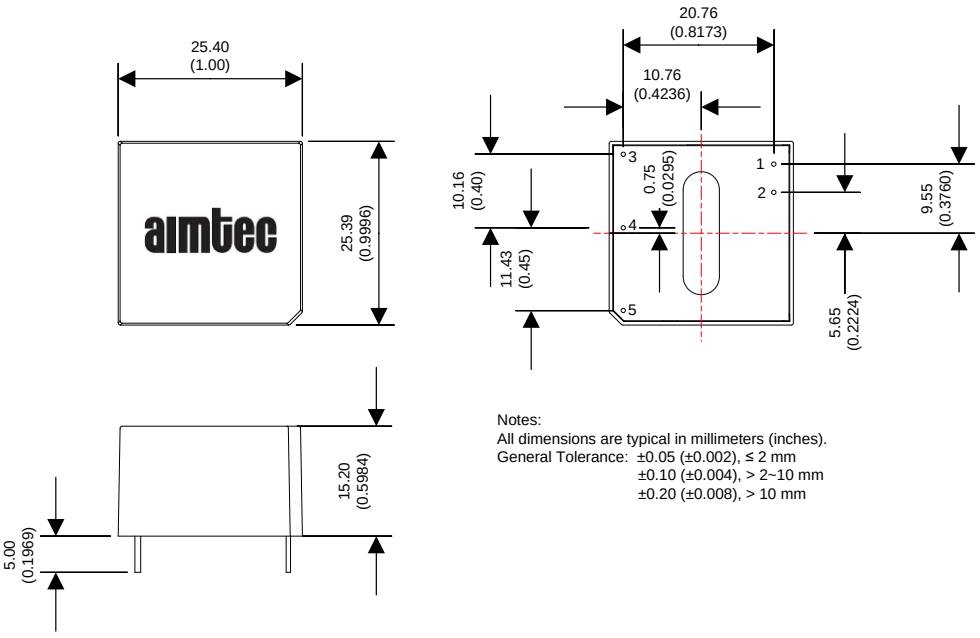
Safety Specifications		
Agency approvals	CE, cULus	
Standards	Information technology Equipment	IEC/EN/UL 62368-1
	EMI - Conducted and radiated emission	EN55032, CISPR 32 class B, FCC Part 15
	Electrostatic Discharge Immunity	IEC 61000-4-2: Contact: 6KV; Air: 8KV
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Level 2, Criterion A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 Level 2, Criterion A
	Surge Immunity	IEC 61000-4-5: 2KV
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 Level 2, Criterion A
	Power frequency Magnetic Field Immunity	IEC 61000-4-8 Level 1, Criterion A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 Level C, Criterion A
	Harmonic Current Emission	IEC 61000-3-2
	Voltage Fluctuation and Flicker Emission	IEC 61000-3-3

Derating





Dimensions



Notes:
All dimensions are typical in millimeters (inches).
General Tolerance: ±0.05 (±0.002), ≤ 2 mm
±0.10 (±0.004), > 2~10 mm
±0.20 (±0.008), > 10 mm

Pin Out Specifications	
Pin	Single
1	AC Input (N)
2	AC Input (L)
3	+V Output
4	-V Output
5	NC

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.