Series AM5E-FZ

5 Watt | DC-DC Converter



FEATURES:

- Over Load, Over Voltage Protection
- Wide 2:1 input range
- High efficiency up to 87%
- Pin compatible with multiple manufacturers
- Operating temperature -55°C to + 85°C
- Input / Output Isolation 1500 VDC
- Continuous short circuit protection

RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Minimum Load Current (mA)	Output Current max (A)	Capacitance load, max (µF)	Efficiency (%)
AM5E-1203S-FZ	9-18	3.3	20	1.5	4700	78
AM5E-1205S-FZ	9-18	5	0	1.0	2200	80
AM5E-1212S-FZ	9-18	12	0	0.416	330	85
AM5E-1215S-FZ	9-18	15	0	0.333	220	85
AM5E-2403S-FZ	18-36	3.3	20	1.5	4700	79
AM5E-2405S-FZ	18-36	5	0	1.0	2200	82
AM5E-2412S-FZ	18-36	12	0	0.416	330	86
AM5E-2415S-FZ	18-36	15	0	0.333	220	87
AM5E-4803S-FZ	36-72	3.3	20	1.5	4700	77
AM5E-4805S-FZ	36-72	5	0	1.0	2200	82
AM5E-4812S-FZ	36-72	12	0	0.416	330	85
AM5E-4815S-FZ	36-72	15	0	0.333	220	86

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Minimum Load Current (mA)	Output Current max (A)	Capacitance load, max (µF)	Efficiency (%)
AM5E-1205D-FZ	9-18	±5	57	±0.5	1100	82
AM5E-1212D-FZ	9-18	±12	0	±0.208	100	84
AM5E-1215D-FZ	9-18	±15	0	±0.167	69	85
AM5E-2405D-FZ	18-36	±5	57	±0.5	990	83
AM5E-2412D-FZ	18-36	±12	0	±0.208	122	86
AM5E-2415D-FZ	18-36	±15	0	±0.167	147	87
AM5E-4805D-FZ	36-72	±5	57	±0.5	1000	82
AM5E-4812D-FZ	36-72	±12	0	±0.208	220	86
AM5E-4815D-FZ	36-72	±15	0	±0.167	13	86

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.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	36-72		
Filter		π(PI)		
Start up time		400		ms
Absolute Maximum Rating	12 Vin	-0.7-25		VDC
	24 Vin	-0.7-50		
	48 Vin	-0.7-100		
Peak Input Voltage time			100	ms
No Load Input Current		<3		mA
Input reflected current		250		mAp-p
Transient recovery deviation		±5		%of Vout
Transient response time	50% load step change	300		µs

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1500	VDC
Resistance		> 1000		MOhm
Capacitance	24 Vin	580		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Short Circuit protection		Continuous		
Short circuit restart		Auto Recovery		
Over load protection		150		%
Over Voltage Protection		Zener Diode Clamp		
Line voltage regulation	LL-HL	±0.5		%
Load voltage regulation (Single)	25-100%	±0.5		%
Load voltage regulation (Dual)	10-100% Balanced	±0.5		%
	25-100% Unbalanced	±5		
Temperature coefficient		±0.02		% °C
Ripple & Noise	20MHz Bandwidth	75		mVp-p

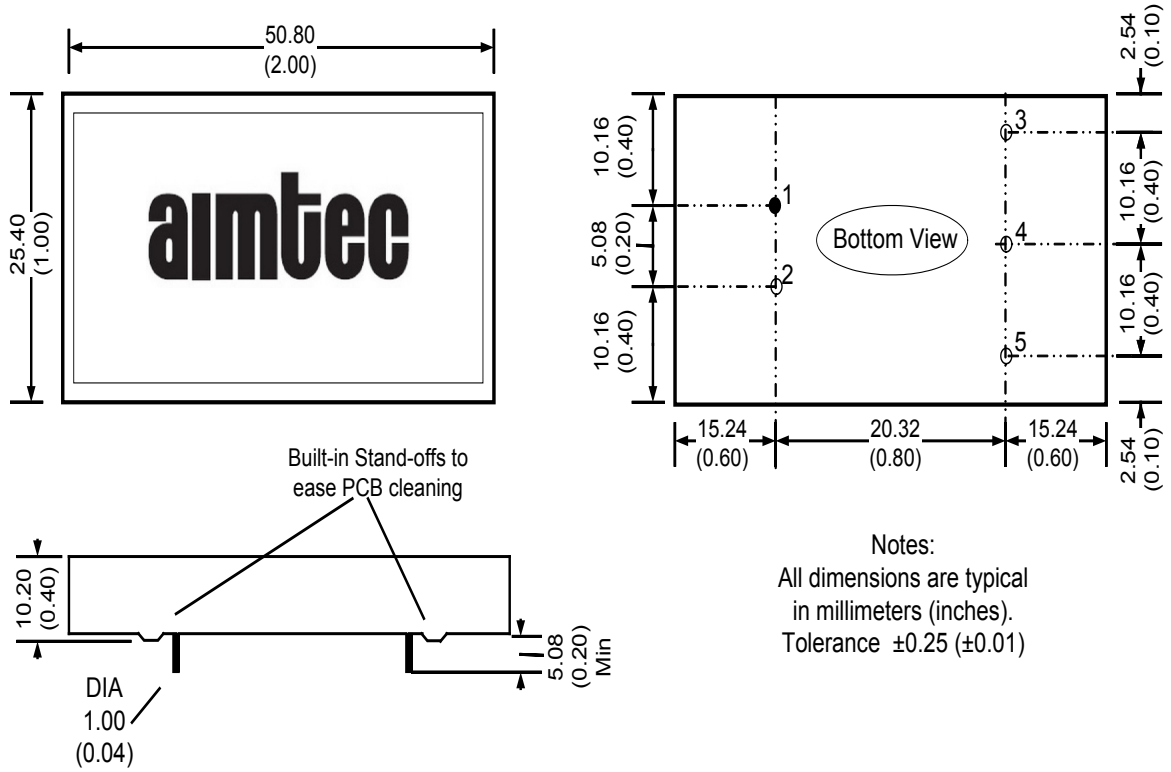
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		300		KHz
Operating temperature		-55 to +85		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			100	°C
Cooling		Free air convection		
Humidity			95	%
Case material		Nickel coated copper		
Weight		30		g
Dimensions (L x W x H)	Tolerance ±0.5mm	2.00 x 1.00 x 0.40 inches	50.80 x 25.40 x 10.20 mm	
MTBF		>1,960,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		
Maximum soldering temperature	1.5mm from case max 10 sec		260	°C

Pin Out Specifications

Pin	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
3	+V Output	+V Output
4	No Pin.	Common.
5	-V Output	-V Output

Dimensions



Notes:
All dimensions are typical
in millimeters (inches).
Tolerance ±0.25 (±0.01)

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.