

Picture coming soon

### FEATURES:

- Wide 2:1 Input Range
- 1600 VDC Isolation
- Adjustable Output Voltage
- Continuous Short Circuit Protection
- Over Temperature Protection
- Efficiency up to 92%
- Remote On/Off Function
- Over Current, Over Voltage Protection
- Operating Temperature: -40°C to 85°C
- Soft start

### Models Single output



Model	Input Voltage (V)	Input Current FL   NL (mA)		Output Voltage (V)	Output Current max (A)	Maximum Capacitive load (μF)	Efficiency (%)
AM50E-1203SZ	9-18	3056	110	3.3	10	26000	90
AM50E-1205SZ	9-18	4682	200	5	10	17000	89
AM50E-1212SZ	9-18	4682	60	12	4.167	3300	89
AM50E-1215SZ	9-18	4682	60	15	3.333	2200	89
AM50E-2403SZ	18-36	1511	70	3.3	10	26000	91
AM50E-2405SZ	18-36	2290	90	5	10	17000	91
AM50E-2412SZ	18-36	2290	40	12	4.167	3300	91
AM50E-2415SZ	18-36	2290	40	15	3.333	2200	91
AM50E-4803SZ	36-75	756	50	3.3	10	26000	91
AM50E-4805SZ	36-75	1132	60	5	10	17000	92
AM50E-4812SZ	36-75	1145	40	12	4.167	2300	91
AM50E-4815SZ	36-75	1170	40	15	3.333	2200	89

Add suffix “-K” for optional heat sink

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	36-75		
Filter	π (Pi) Network			
Startup time		50		ms
Absolute Maximum Rating	12		25	VDC
	24		50	
	48		100	
Peak Input Voltage time			100	ms
On/Off control	ON: 3 ~12VDC or open circuit; OFF – 0 ~ 1.2VDC or Short circuit between pin 2 and pin 3 (OFF idle current: 5mA Typical)			
Under voltage lockout	12V ON/OFF	8.6 / 7.9		VDC
	24V ON/OFF	17.8 / 16		
	48V ON/OFF	34 / 29		
Input Reflected Ripple Current		20		mA p-p
Transient Recovery time	25% load step change	250		μs
Transient Response Deviation	25% load step change		±3	%

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1600	VDC
Case/Input and Output	60 sec		1600	VDC
Resistance		<1000		MOhm
Capacitance		2000		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Over voltage protection		Zener diode clamp		
Over load protection		120~140		% of Iout
Short Circuit protection		Continuous, auto-restart		
Line voltage regulation	HL-LL		±0.5	%
Load voltage regulation	0% to 100% load		±0.5	%
Temperature coefficient		±0.02		%/°C
Ripple & Noise*	20MHz Bandwidth		100	mV p-p
Voltage adjustment range			±10	%

\*Measured with a 1µF ceramic capacitor.

## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load, 12Vin models	230		KHz
	100% load, 24 & 48Vin models	270		
Operating temperature	See derating chart	-40 to +85		°C
Storage temperature		-40 to +125		°C
Maximum case temperature			105	°C
Over Temperature Protection	Measured on the case		115	°C
Cooling		Free Air Convection (30-65 LFM)		
Humidity			95	% RH
Case material		Copper		
Weight		45		g
Dimensions (L x W x H)		2.00 x 1.00 x 0.45 inches	50.80 x 25.40 x 11.50 mm	
MTBF		>200,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) hours		
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C

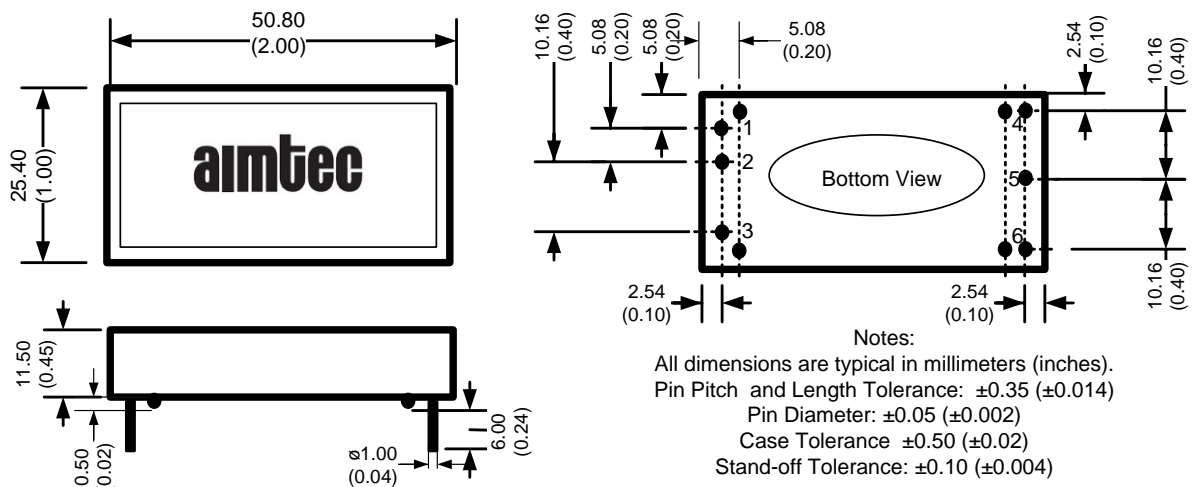
## Safety Specifications

Parameters	
Agency Approval	CE, cULus
Safety	EN55032, Class A IEC 61000-4-2, Criteria A IEC 61000-4-3, Criteria A IEC 61000-4-4, Criteria A, with external filter IEC 61000-4-5, Criteria A, with external filter IEC 61000-4-6, Criteria A IEC 61000-4-8, Criteria A Designed to meet IEC 60950-1

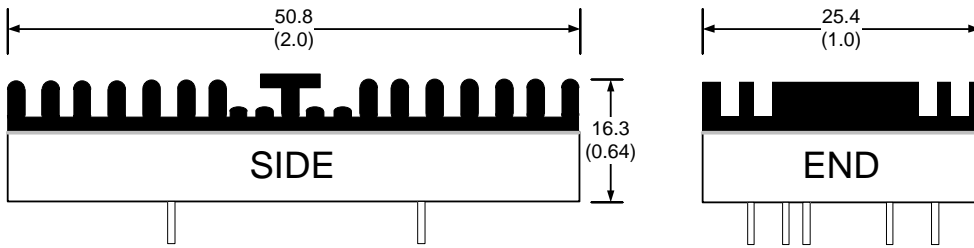
## Pin Out Specifications

Pin	Single
1	+ V Input
2	- V Input
3	On/Off Control
4	+ V Output
5	-V Output
6	Trim

## Dimensions

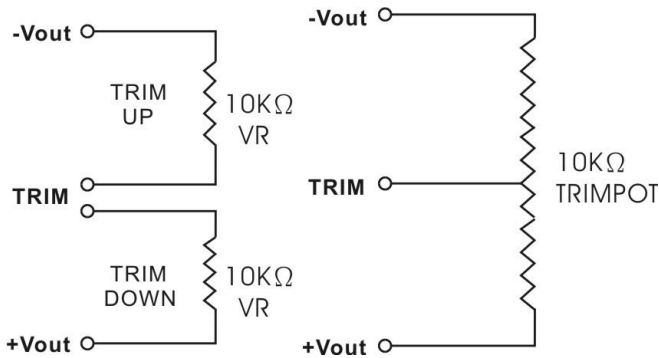


### Dimensions with Optional Heatsink

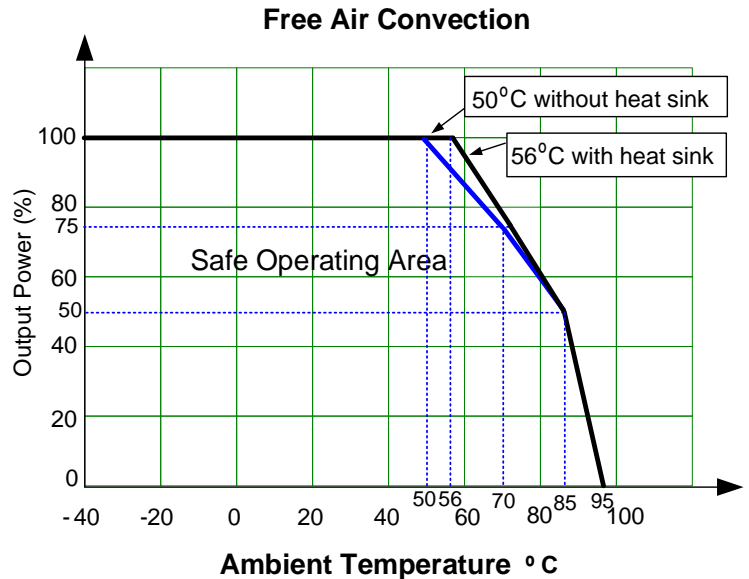


Notes: Add “-K” suffix for ordering, heat sink is affixed with thermally dissipative adhesive tape.  
See derating graph for temperature performance. Heat sink material is anodized (black) aluminum, adds weight 11.2g.  
Thermal impedance of converter is: with heat sink 10°C/W and 12°C/W without heat sink.

### Trimming

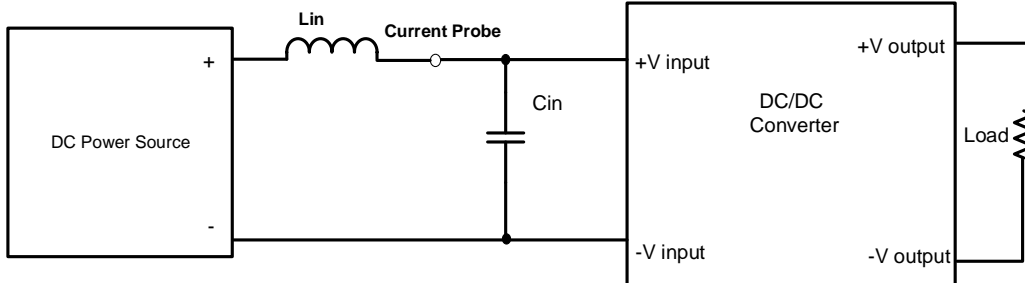


### Derating



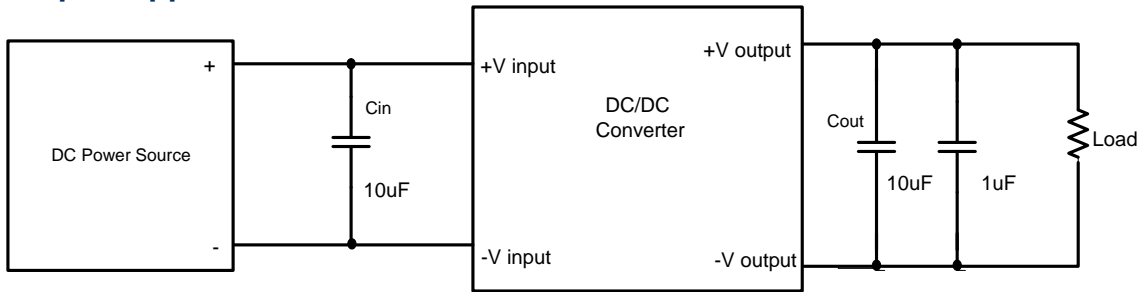
Extended temperature performance can be achieved with optional heat sink. (add suffix “-K” to part number)

### Input Reflected Ripple Current Test Step



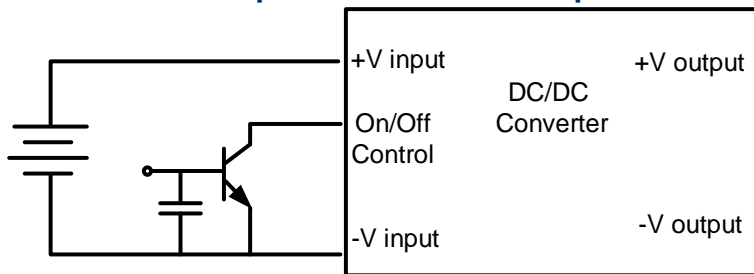
Input reflected ripple current is measured through a source inductor  $L_{in}$  (12 $\mu$ H) and a source capacitor  $C_{in}$  (47 $\mu$ F, ESR < 1.0 $\Omega$ ) at 100KHz at a nominal input and full load

### Output Ripple and noise reduction

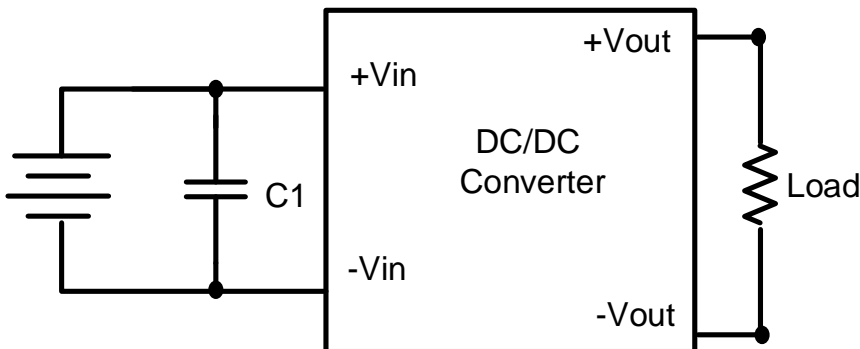


To reduce ripple and noise, it is recommended to use a 1µF ceramic disk capacitor and a 10µF electrolytic

### Control ON/OFF pin connection example



### EFT/Surge Circuit recommendation



Vin	C1
24V	220 µF / 100V
48V	

**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](http://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](http://www.aimtec.com).