



### FEATURES:

- Wide 2:1 Input Range
- 1600 VDC I/O Isolation
- Adjustable Output Voltage
- Soft Start
- Over Current & Over Voltage Protection
- Over Temperature Protection
- Efficiency up to 92%
- Temperature Range -40°C to +75°C
- Remote On/Off Function
- Continuous Short Circuit Protection
- No Minimum Load Required



### Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Maximum Capacitive Load (uF)	Efficiency (%)
AM30E-1203SZ	9-18	3.3	8	20000	89
AM30E-1205SZ	9-18	5	6	14000	91
AM30E-1205.1SZ	9-18	5.1	6	14000	92
AM30E-1212SZ	9-18	12	2.5	2000	91
AM30E-1215SZ	9-18	15	2	2000	92
AM30E-2403SZ	18-36	3.3	8	20000	91
AM30E-2405SZ	18-36	5	6	14000	92
AM30E-2405.1SZ	18-36	5.1	6	14000	92
AM30E-2412SZ	18-36	12	2.5	2000	92
AM30E-2415SZ	18-36	15	2	2000	92
AM30E-4803SZ	36-75	3.3	8	20000	90
AM30E-4805SZ	36-75	5	6	14000	91
AM30E-4805.1SZ	36-75	5.1	6	14000	91
AM30E-4812SZ	36-75	12	2.5	2000	91
AM30E-4815SZ	36-75	15	2	2000	91

Add suffix “-K” for optional heat sink

### Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Maximum Capacitive Load (uF)	Efficiency (%)
AM30E-1205DZ	9-18	±5	±3	±3000	89
AM30E-1212DZ	9-18	±12	±1.25	±1300	90
AM30E-1215DZ	9-18	±15	±1	±1300	91
AM30E-2405DZ	18-36	±5	±3	±3000	90
AM30E-2412DZ	18-36	±12	±1.25	±1300	91
AM30E-2415DZ	18-36	±15	±1	±1300	91
AM30E-4805DZ	36-75	±5	±3	±3000	90
AM30E-4812DZ	36-75	±12	±1.25	±1300	90
AM30E-4815DZ	36-75	±15	±1	±1300	90

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			
Start up time		30		ms
Absolute Maximum Rating	12	-0.7 ~ 25		VDC
	24	-0.7 ~ 50		
	48	-0.7 ~ 100		

### Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
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			
Under voltage lockout	12V ON/OFF		8.6 / 7.9	VDC
	24V ON/OFF		17.8 / 16	
	48V ON/OFF		33.5 / 30.5	

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1600	VDC
Case/Input tested voltage	3 sec	1600		VDC
Resistance		1000		MOhm
Capacitance		1500		pF

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Cross Regulation (Dual Output Models)	25% load on one output 100% load on second load	±5		%
Over voltage protection		Zener diode clamp		
Over current protection		150		%
Short Circuit protection		Continuous		
Short circuit restart		Auto-Recovery		
Thermal shutdown	On Case	115		°C
Line voltage regulation	HL-LL	±0.5		%
Load voltage regulation (Single)	0 – 100% load	±0.5		%
Load voltage regulation (Dual)	0 – 100% load	±1		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	100		mV p-p
Voltage adjustment range (single)		±10		%
Minimum Load Current		0		% of Max

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	Derating above 50	-40 to +75		°C
Storage temperature		-40 to +125		°C
Maximum case temperature			105	°C
Derating		2		%/°C
Cooling		Free Air Convection		
Humidity			95	% RH
Case material		Nickel coated Copper		
Weight		31		g
Dimensions (L x W x H)		2.00 x 1.00 x 0.40 inches	50.80 x 25.40 x 10.16 mm	
MTBF		>435,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)hours		
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C
Transient recovery time		250		mS
Transient recovery deviation		±3		%

### Safety Specifications

Parameters	
Agency Approvals	CE
Standards	EN55022 Class A
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required)

## Safety Specifications (continued)

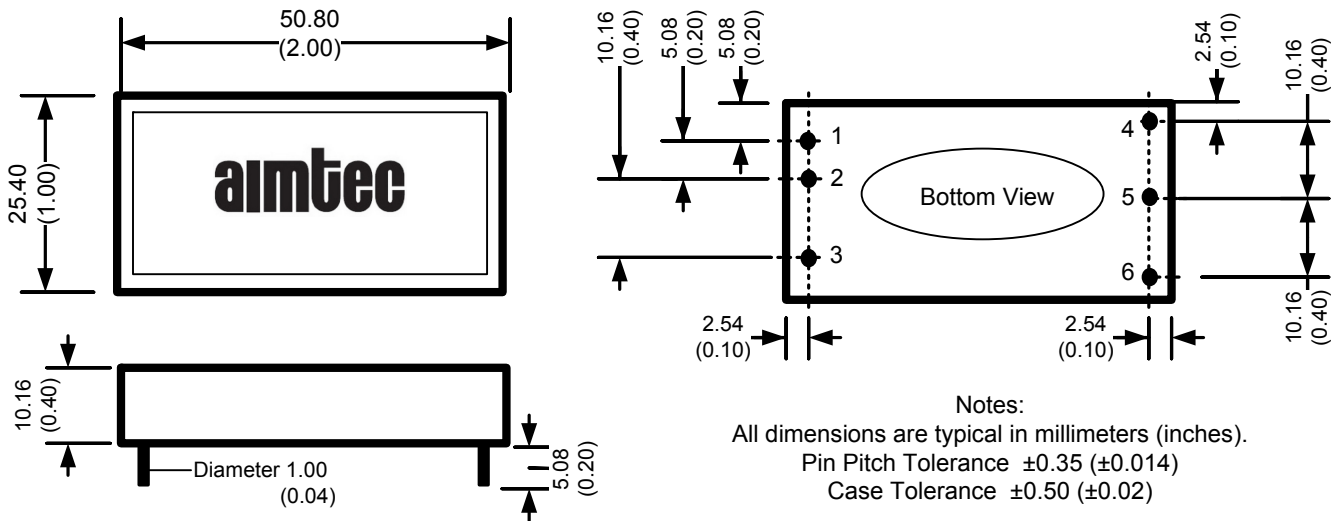
Parameters	
	IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	NOTE: also designed to meet IEC/EN 60950-1

## Pin Out Specifications

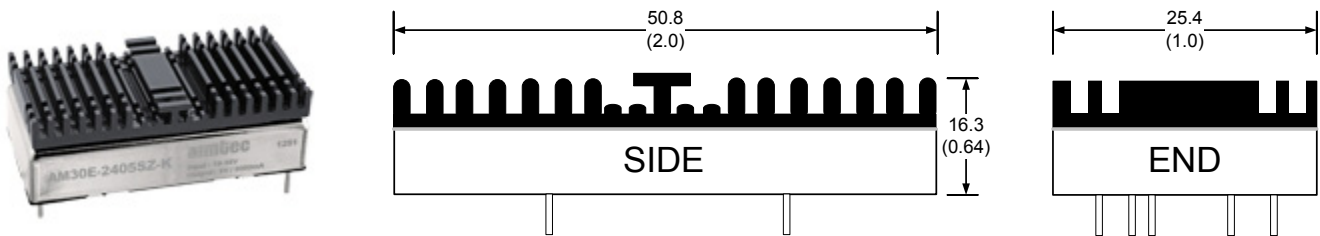
Pin	Single	Dual
1	+ V Input	+ V Input
2	- V Input	- V Input
3	On/Off Control	On/Off Control
4	+ V Output	+ V Output
5	-V Output	Common
6	Trim	- V Output

## Dimensions

Single and Dual Output Models

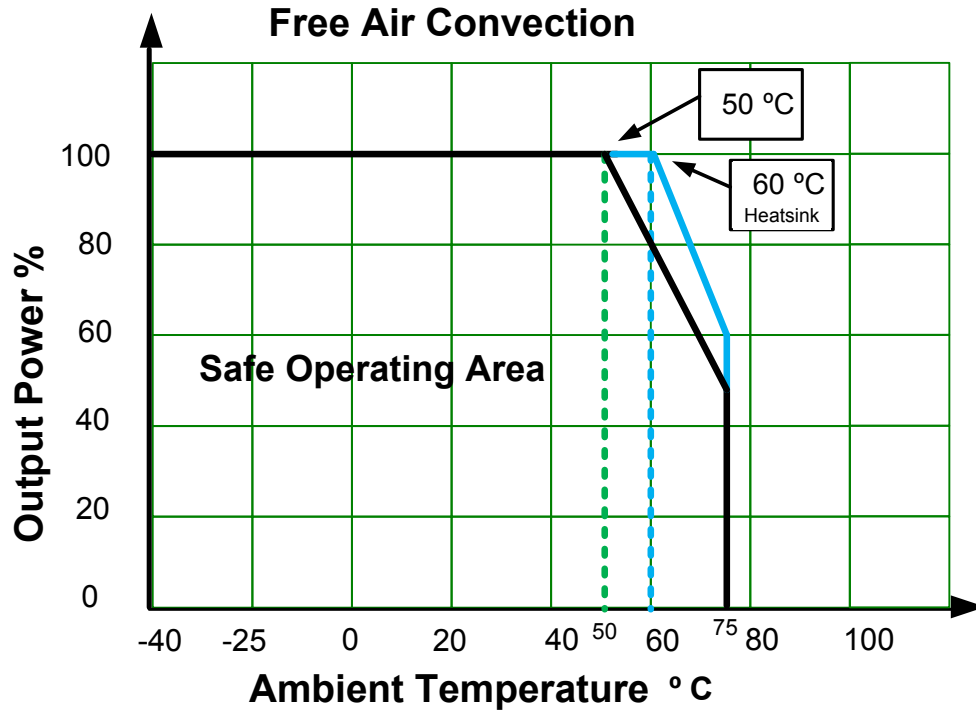


## Dimensions with Optional Heat Sink



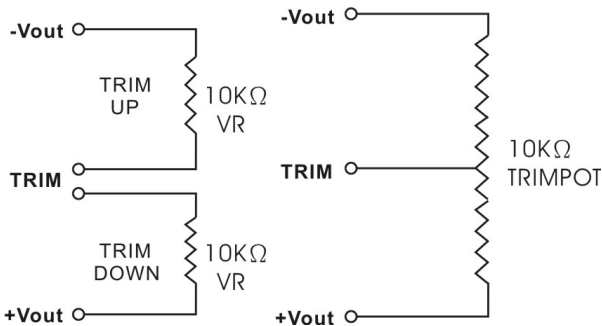
Notes: Add “-K” suffix for ordering, heat sink is affixed with thermally dissipative adhesive tape. See derating graph for temperature performance. Heat sink material is anodized (black) aluminum, adds weight 11.2g to total mass (42.2g). Thermal impedance of converter is: with heat sink 10°C/W and 12°C/W without heat sink.

**Derating**

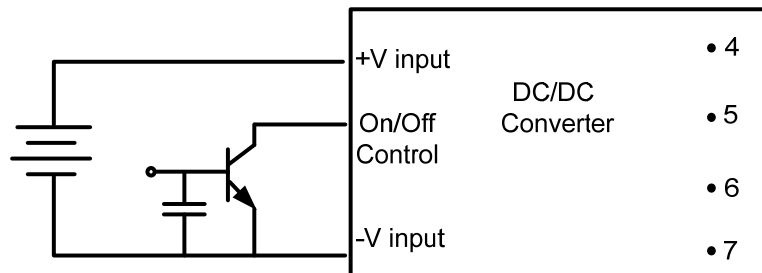


Extended temperature performance can be achieved with optional heat sink. (add suffix “-K” to part number)

**Trimming**



**Control ON/OFF**

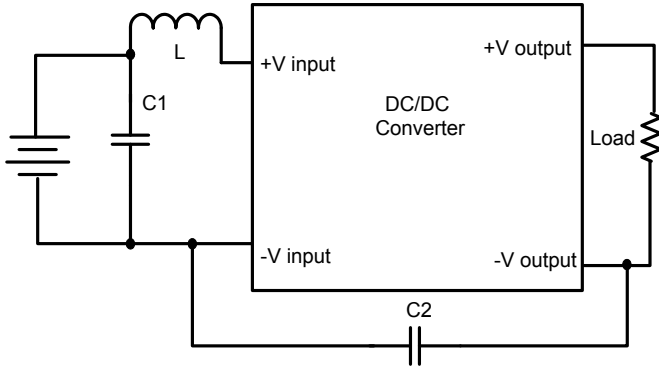


Positive logic turns on the module during high logic and off during low logic. Module can be controlled by an external switch between the On/Off CTRL terminal and -Vinput terminal. The switch can be either open collector or open drain

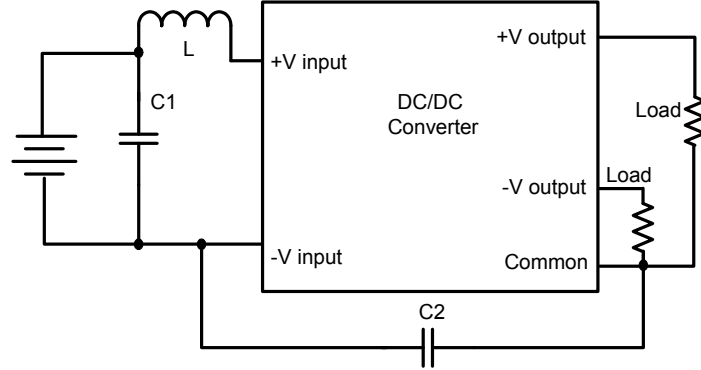
### Recommended Circuits

C1	L	C2
100uF, 100V	12uH	1206, 470pF, 2KV

Conducted/Radiated Emissions  
Single Output



Conducted/Radiated Emissions  
Dual Output



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