



**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

**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

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		
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			

### Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
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

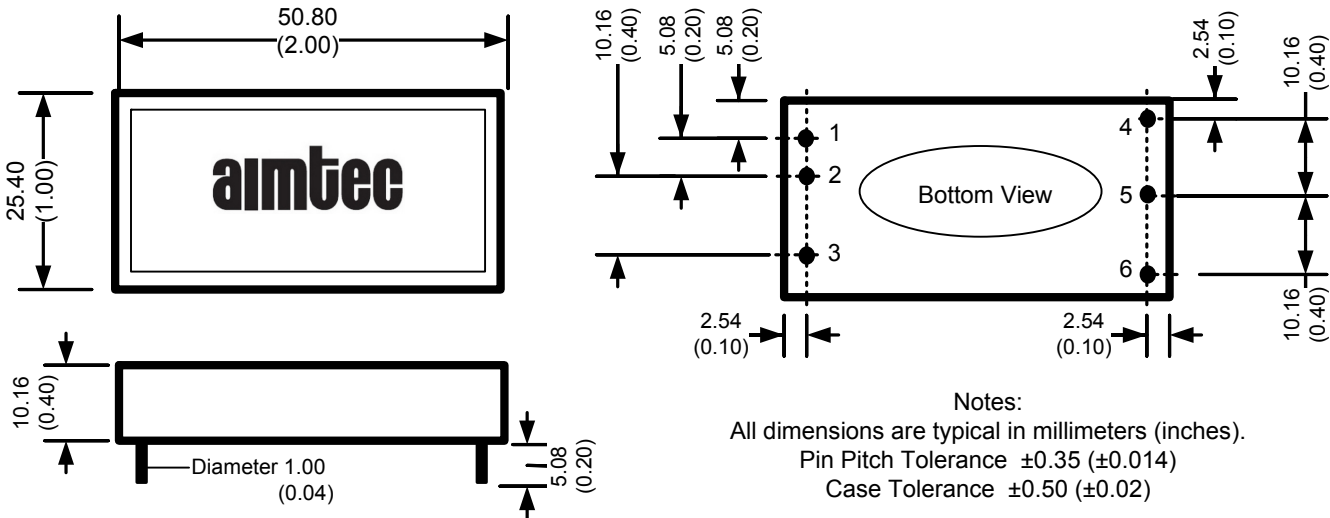
Agency Approvals	CE
Standards	EN55022 Class A
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
NOTE: also designed to meet IEC/EN 60950-1	

## Pin Out Specifications

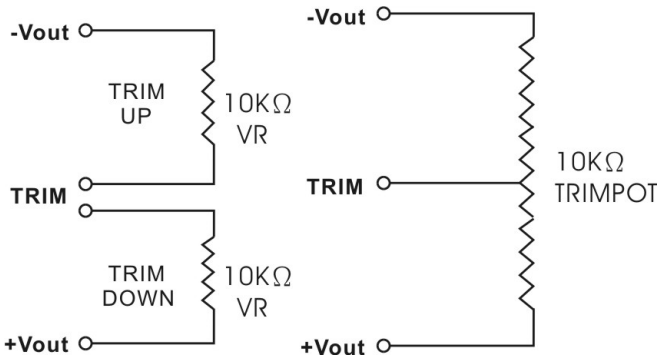
Pin	Single	Dual
1	+ V Input	+ V Input
2	- V Input	- V Input
3	On/Off Control	On/Off Control
4	+ V Output	+ V Output
5	-V Output	Common
6	Trim	- V Output

## Dimensions

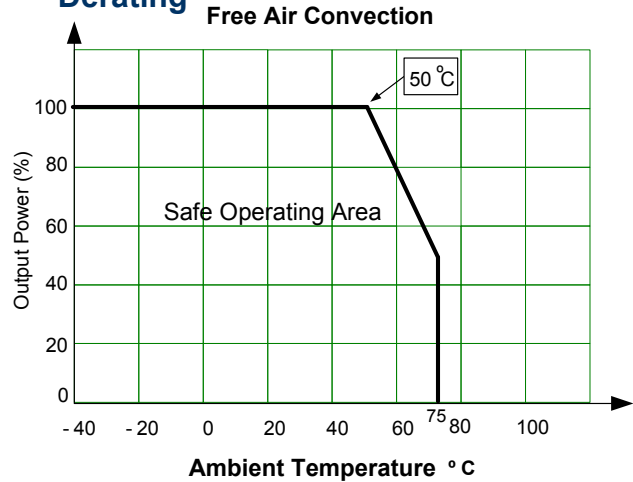
Single and Dual Output Models



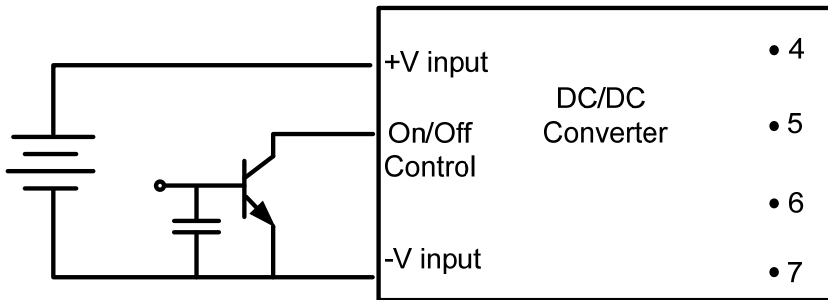
**Trimming**



**Derating**



**Control ON/OFF**

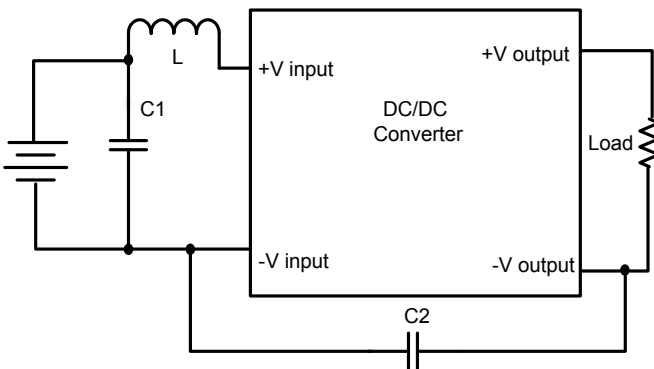


Positive logic turns on the module during high logic and off during low logic. Module can be controlled by an external switch between the On/Off CTRL terminal and -Vinput terminal. The switch can be either open collector or open drain

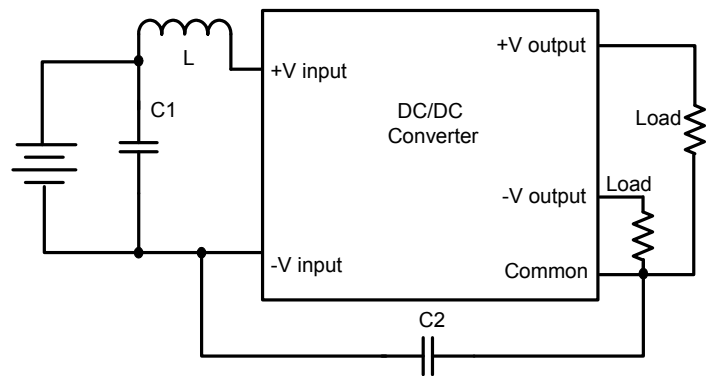
**Recommended Circuits**

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

Conducted/Radiated Emissions Single Output



Conducted/Radiated Emissions Dual Output



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