



### FEATURES:

- Ultra-compact footprint 1"x1"
- Wide Input Range 2:1
- 1600 VDC Isolation
- Remote ON/OFF Function
- No Minimum Load Required
- Adjustable Output Voltage
- Operating Temperature -40°C to +75°C
- Over Current and Over Voltage Protection
- Efficiency up to 90%
- RoHS Compliant
- Soft Start

### Models: Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM20C-1203SZ	9-18	3.3	4.5	1600	7000	86
AM20C-1205SZ	9-18	5	4	1600	5000	90
AM20C-1212SZ	9-18	12	1.67	1600	850	89
AM20C-1215SZ	9-18	15	1.33	1600	700	89
AM20C-2403SZ	18-36	3.3	4.5	1600	7000	86
AM20C-2405SZ	18-36	5	4	1600	5000	89
AM20C-2412SZ	18-36	12	1.67	1600	850	89
AM20C-2415SZ	18-36	15	1.33	1600	700	89
AM20C-4803SZ	36-75	3.3	4.5	1600	7000	86
AM20C-4805SZ	36-75	5	4	1600	5000	89
AM20C-4812SZ	36-75	12	1.67	1600	850	89
AM20C-4815SZ	36-75	15	1.33	1600	700	85

### Models: Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM20C-1212DZ	9-18	±12	±0.833	1600	±470	89
AM20C-1215DZ	9-18	±15	±0.667	1600	±330	89
AM20C-2412DZ	18-36	±12	±0.833	1600	±470	89
AM20C-2415DZ	18-36	±15	±0.667	1600	±330	89
AM20C-4812DZ	36-75	±12	±0.833	1600	±470	89
AM20C-4815DZ	36-75	±15	±0.667	1600	±330	89

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		VDC
	48	36-75		VDC
Filter	π			
Start up time	Nominal Vin with constant resistive load		30	ms
Absolute Maximum Rating	12 Vin		25	VDC
	24 Vin		50	VDC
	48 Vin		100	VDC
Peak Input Voltage time			100	ms
On/Off control	ON –3 to 12VDC (or open) OFF – 0 to 1.2VDC or short pin 2 to pin 3; OFF idle current – 5mA			
Under voltage lockout	12 Vin ON/OFF	8.6 / 7.9		VDC
	24 Vin ON/OFF	17.8 / 15.5		VDC
	48 Vin ON/OFF	33.5 / 30.5		VDC
Input reflected ripple current	With a 12µH inductance and a 47µF capacitor		30	mA p-p

## Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1600	VDC
Case to I/O	60 sec	1600		VDC
Resistance		>1000		MOhm
Capacitance		1500		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy			±1	%
Cross Regulation*	Dual Output Models	±5		%
Over voltage protection	3.3Vout, Zener diode clamp	3.9		V
	5Vout, Zener diode clamp	6.2		V
	9Vout, Zener diode clamp	15		V
	12Vout, Zener diode clamp	18		V
	±12Vout, Zener diode clamp	±15		V
	±15Vout, Zener diode clamp	±18		V
Over current protection	Full Load	140		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Line voltage regulation	HL-LL		±0.5	%
Load voltage regulation	0% to 100% load, single output		±0.5	%
Load voltage regulation	0% to 100% balanced load, dual output		±1	%
Temperature coefficient		±0.02		%/°C
Ripple & Noise**	3.3, 5Vout models		75	mV p-p
	Other models		100	mV p-p
Voltage adjustment range	Trim - Single output models only		±10	%

\* 25% load on one output - 100% load on second load.

\*\* Measured at 20MHz bandwidth with a 1µF ceramic capacitor and a 10µF electrolytic capacitor.

## General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	With derating above +55°C	-40 to +75		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			105	°C
Derating		2.33		%/°C
Cooling	Free air convection (30-65LFM)			
Humidity			95	% RH
Case material	Nickel-coated copper			
Weight		19		g
Dimensions (L x W x H)	1.00 x 1.00 x 0.41 inches 25.40 x 25.40 x 10.4 mm			
MTBF	> 560,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C
Transient recovery time	Load step change 75% to 50% to 25%	250		µS
Transient recovery deviation	Load step change 75% to 50% to 25%		±3	%

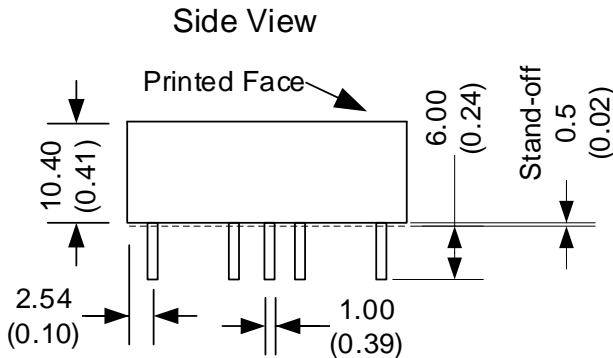
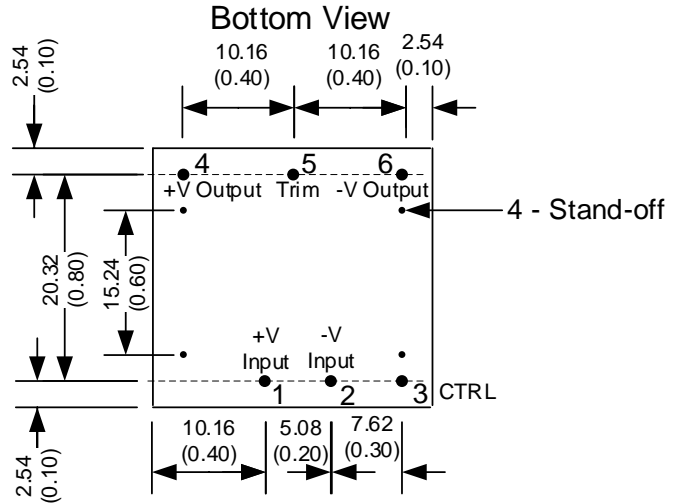
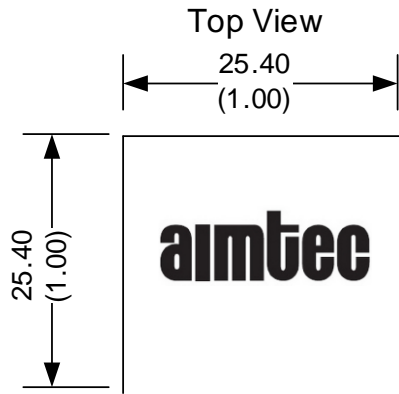
## Safety Specifications

Parameters	
Agency Approval	CE, UL
Standards	UL60950-1, UL62368-1
	EN55032, Class A
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220µF/100V cap required)
	IEC61000-4-5, Perf. Criteria A (external 220µF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

### Pin Out Specifications

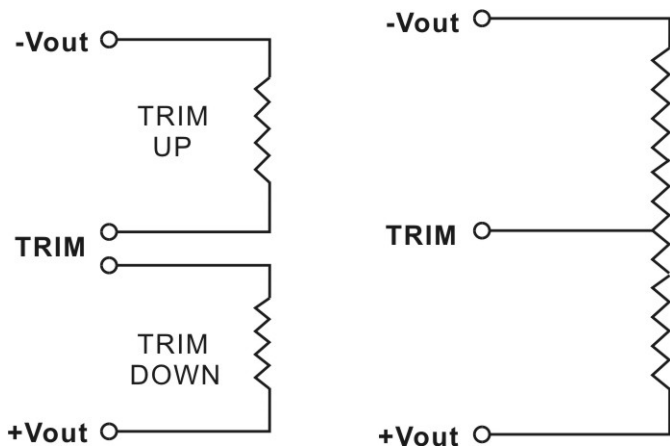
Pin	Single	Dual
1	+ V input	+ V input
2	- V input	- V input
3	On/Off Control	On/Off Control
4	+ V output	+ V output
5	Trim	Common
6	- V output	- V output

### Dimensions

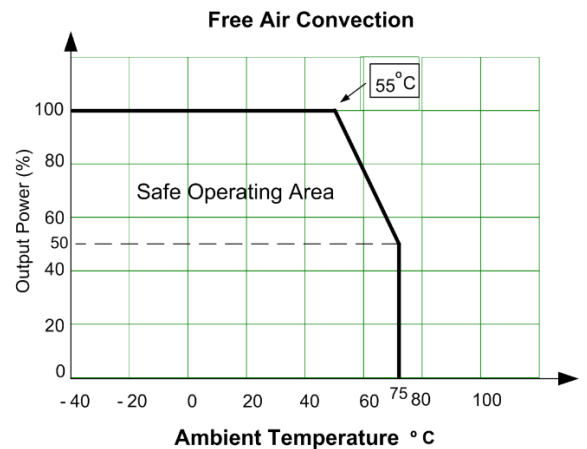


All dimensions are typical in millimeters (inches)  
Pin Diameter:  $1.00 \pm 0.05$  ( $0.04 \pm 0.002$ )  
Pin Pitch And Length Tolerance:  $\pm 0.35$  ( $\pm 0.014$ )  
Case Tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
Stand-off tolerance:  $\pm 0.1$  ( $\pm 0.004$ )

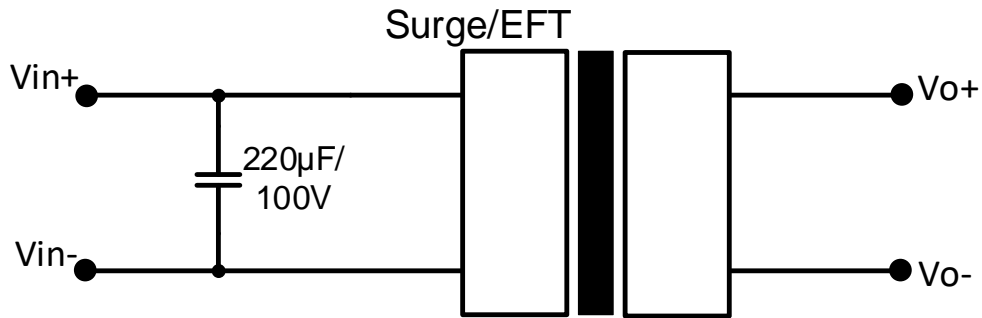
### Trimming



### Derating



### Typical Application Circuit



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