

Series AM20C-Z

20 Watt | DC-DC Converter



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 (μF)	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	90

Models: Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load (μF)	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		
	48	36-75		
Filter	π			
Start up time	Nominal Vin with constant resistive load	30		ms
Absolute Maximum Rating	12 Vin		25	VDC
	24 Vin		50	
	48 Vin		100	
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			
No load current			60	mA
Under voltage lockout	12 Vin ON/OFF	8.6 /7.9		VDC
	24 Vin ON/OFF	17.8/16		
	48 Vin ON/OFF	33.5/30.5		
Input reflected ripple current		30		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1600	VDC
Case to Input	3 sec	1600		VDC
Case to Output	3 sec	1600		VDC
Resistance		>1000		MOhm
Capacitance		1000		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	120		%
Over current protection	Full Load	150		%
Short Circuit protection		Continuous		
Short circuit restart		Auto-Recovery		
Line voltage regulation	HL-LL	±0.5		%
Load voltage regulation (Single)	0% to 100% load	±0.5		%
Load voltage regulation (Dual)	0% to 100% balanced load	±1		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	100		mV p-p
Voltage adjustment range	Trim - Single output models only	±10		%

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		-40 to +125		°C
Maximum case temperature			105	°C
Derating		2.33		%/°C
Cooling		Free air convection		
Humidity			95	% RH
Case material		Nickel-coated copper		
Weight		18		g
Dimensions (L x W x H)		1.00 x 1.00 x 0.40 inches	25.40 x 25.40 x 10.16 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		%

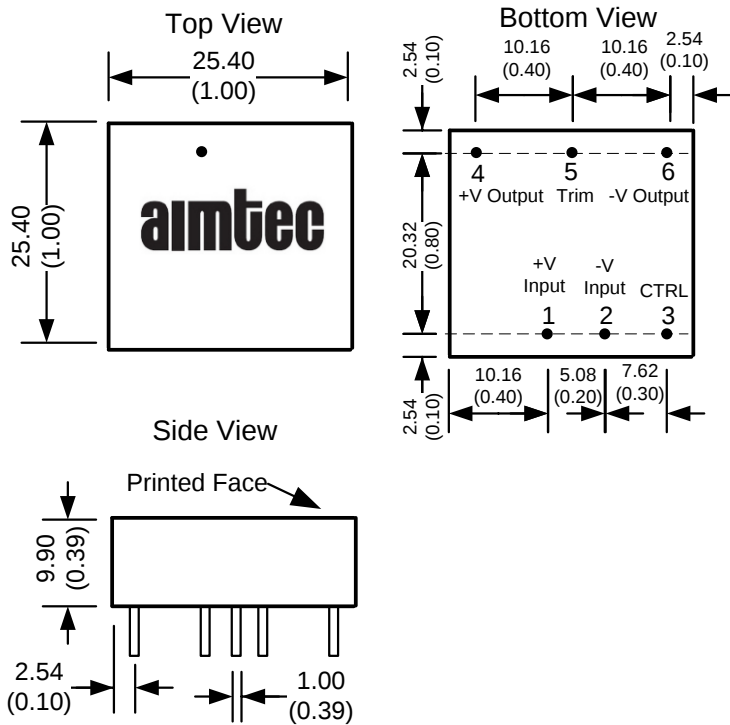
Safety Specifications

Parameters	
Agency Approval	CE
Standards	UL60950-1, UL62368-1
	EN55022: 2006 + A1:2007, Class A
	IEC61000-3-2:2006+A2:2009
	IEC61000-3-3:2008
	EN55024:1998 + A1:2001 + A2:2003
	IEC61000-4-2: 2008
	IEC61000-4-3:2006+A1: 2007
	IEC61000-4-4:2004
	IEC61000-4-5:2005
	IEC61000-4-6:2008
	IEC61000-4-8:2009

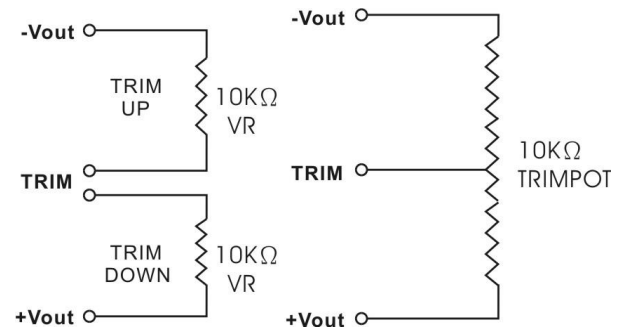
Pin Out Specifications

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

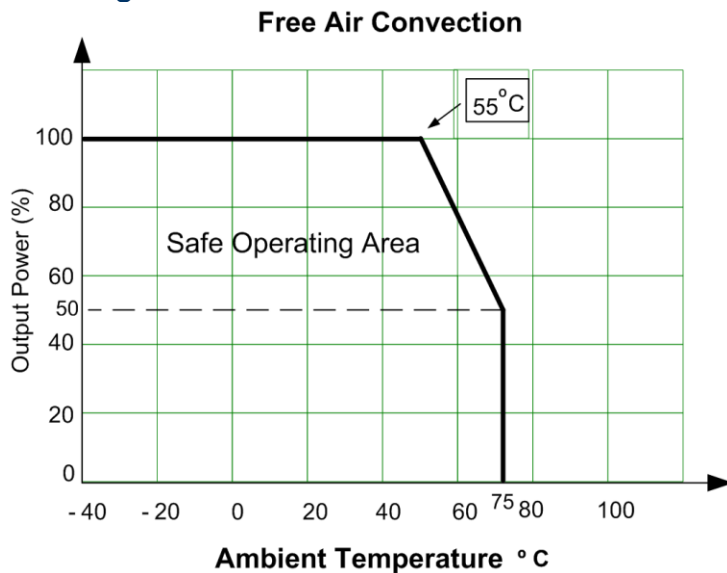
Dimensions



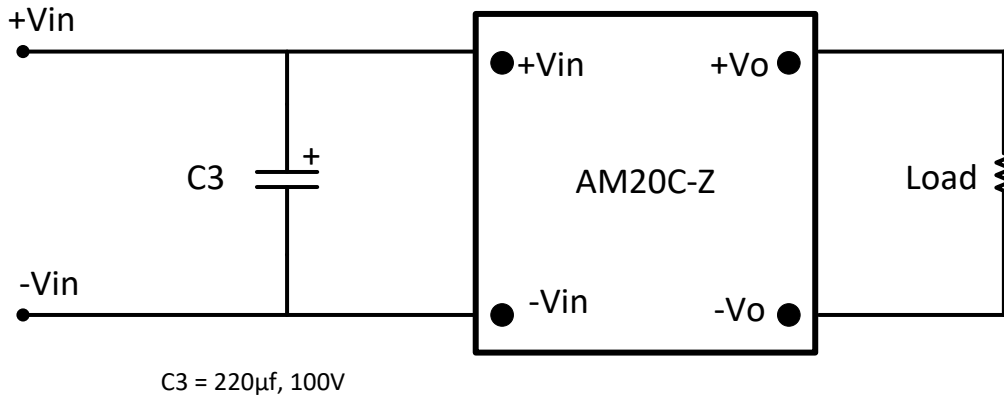
Trimming



Derating



Typical Application Circuit



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