

FEATURES:



- RoHS Compliant
- Ultra wide 4:1 Input range
- Adjustable Output Voltage
- Remote On/Off
- 2" x 1" package
- Soft start
- Industrial temperature range -40 to +85°C
- High efficiency up to 91%
- No minimum load required



Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (μF)	Efficiency (%)
AM20EW-2403SZ	9-36	3.3	5.5	10000	89
AM20EW-2405SZ	9-36	5	4	6800	91
AM20EW-2412SZ	9-36	12	1.67	1000	89
AM20EW-2415SZ	9-36	15	1.33	680	89
AM20EW-4803SZ	18-75	3.3	5.5	10000	89
AM20EW-4805SZ	18-75	5	4	6800	91
AM20EW-4812SZ	18-75	12	1.67	1000	89
AM20EW-4815SZ	18-75	15	1.33	680	89

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Maximum capacitive load (μF)	Efficiency (%)
AM20EW-2405DZ	9-36	±5	±2	±2200	89
AM20EW-2412DZ	9-36	±12	±0.835	±470	88
AM20EW-2415DZ	9-36	±15	±0.665	±330	89
AM20EW-4805DZ	18-75	±5	±2	±2200	89
AM20EW-4812DZ	18-75	±12	±0.835	±470	88
AM20EW-4815DZ	18-75	±15	±0.665	±330	89

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 48	9-36 18-75		VDC
Under voltage lockout	24 48	7.9 16	8.6 17.8	VDC
Filter	π (Pi) Network			
Turn on Transient process time		250		μs
Transient Recovery deviation			±3	%
Start up time		20		ms
Absolute Maximum Rating	24 48	-0.7~50 -0.7~100		VDC
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 1			
OFF idle current		5		mA
Input Reflected ripple current		20		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1600	VDC
Case/Input Isolation tested voltage	3 sec	1600		VDC
Resistance		>1000		MOhm
Capacitance		1200		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Over voltage protection		Zener diode clamp		
Over current protection		120		% of FL
Short Circuit protection		Continuous		
Short Circuit restart		Auto recovery		
Line voltage regulation		±0.5		% of Vin
Load voltage regulation (Single)	0-100% load	±0.5		%
Load voltage regulation (Dual)	Balanced load	±1		%
Cross regulation (Dual output model)	25% load on first output and 100% load on second output	±5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	75		mV p-p
Voltage adjustment range		±10		%

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	With derating above 65°C	-40 to +85		°C
Storage temperature		-40 to +125		°C
Max Case temperature			105	°C
Cooling		Free air convection		
Humidity			95	% RH
Case material		Nickel coated copper with non conductive base		
Weight		30		g
Dimensions (L x W x H)	Tolerance ±0.5mm (±0.02 inches)	2.00 x 1.00 x 0.40 inches	50.80 x 25.40 x 10.16 mm	
MTBF		>560 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		

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.

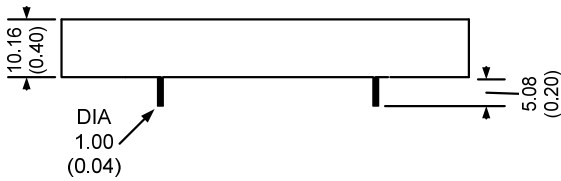
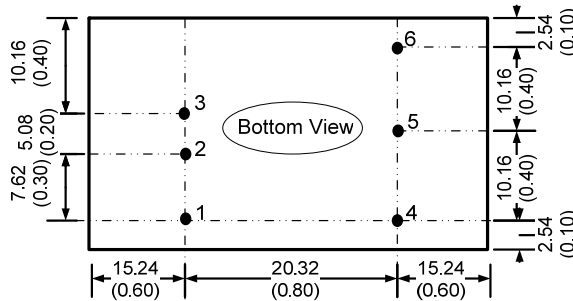
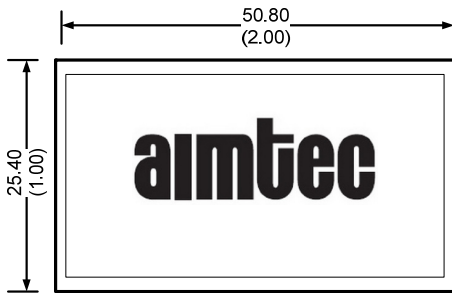
Safety Specifications

Parameters	
Standards	CE
	EN55022, class A - with external circuit recommended below; EN55024
	EN61000-4-2, criteria B
	EN61000-4-3, criteria A
Standards	EN61000-4-4, criteria B – with external filter capacitor, 220µF/100V
	EN61000-4-5, criteria B – with external filter capacitor, 220µF/100V
	EN61000-4-6, criteria A
	EN61000-4-8, criteria A
	NOTE: Designed to meet IEC/EN 60950-1

Pin Out Specifications

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

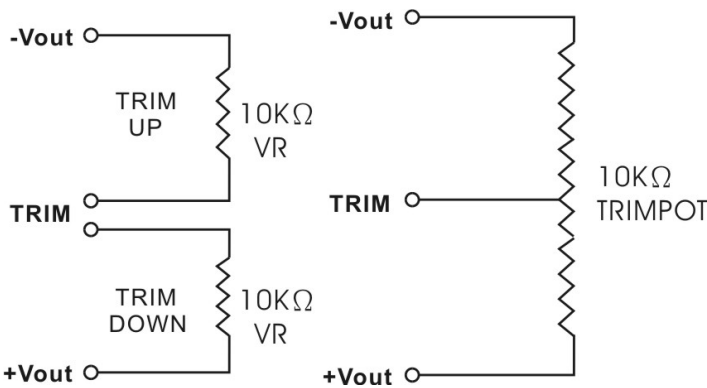
Dimensions



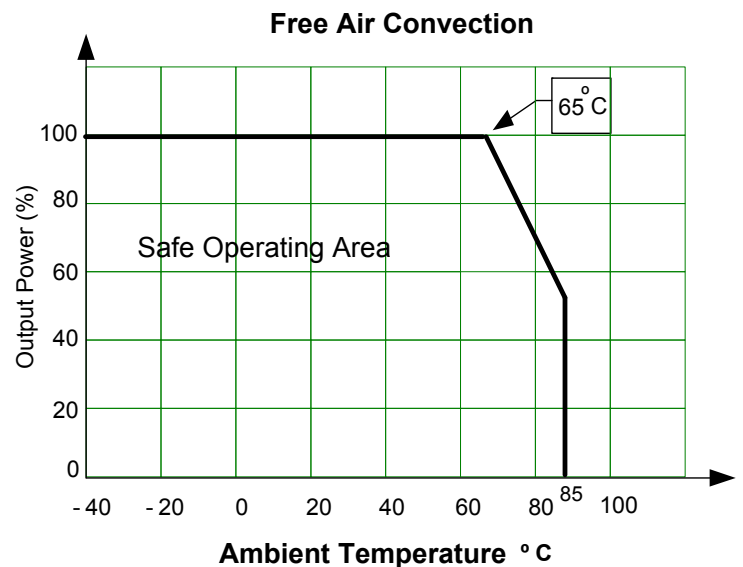
Notes:
All dimensions are typical
in millimeters (inches).
Tolerance ± 0.25 (± 0.01)

Pin Diameter: 1.0 ± 0.05 mm (0.04 ± 0.002 inches)
Pin pitch tolerance: ± 0.35 mm (± 0.014 inches)

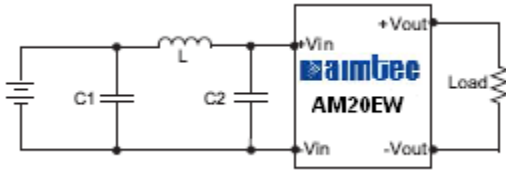
Trimming



Derating



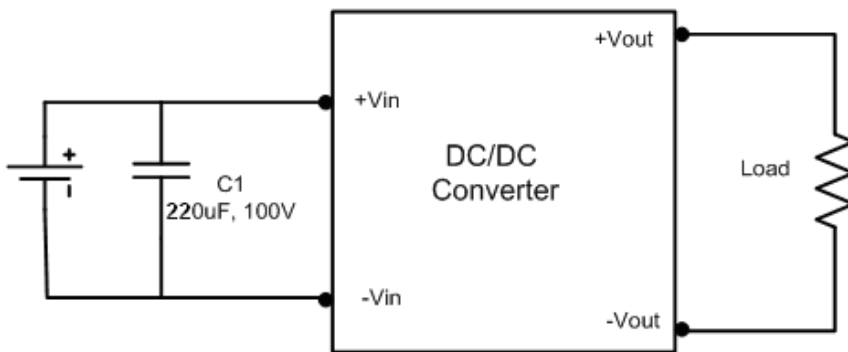
Recommended external circuit to meet the required conducted emissions



Location	Type	Value
C1	1210	2.2 μ F/100V
C2	1210	2.2 μ F/100V
L		12 μ H

These components should be mounted as close as possible to the converter module and length of the leads should be kept shorter to decrease radiated noise.

Surge/EFT



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