aimtec
Your Power Partner

Series AM60EW-Z

60 Watt | DC-DC Converter

Picture coming soon

FEATURES:

- Wide Input 4:1 Range
- No Minimum Load Required
- Soft Start
- Efficiency up to 93%
- 1600 VDC Isolation
- Adjustable Output Voltage
- Remote ON/OFF Function
- Operating temperature -40˚C to + 75˚C
- Over Current, Over Voltage, Over Temperature & Continuous Short Circuit Protection

Models
Single output

Model	Input Voltage (V)	Input Current No load/Full load (mA)	Output Voltage (V)	Output Current max (A)	Max Capacitive load (µF)	Efficiency (%)
AM60EW-2405SZ	9-36	25/2703	5	12	30,000	93
AM60EW-2412SZ	9-36	25/2703	12	5	5850	93
AM60EW-2415SZ	9-36	25/2688	15	4	3900	93
AM60EW-4805SZ	18-75	25/1344	5	12	30,000	93
AM60EW-4812SZ	18-75	25/1351	12	5	5850	93
AM60EW-4815SZ	18-75	25/1344	15	4	3900	93

Models
Dual output

Model	Input Voltage (V)	Input Current No load/Full load (mA)	Output Voltage (V)	Output Current max (A)	Max Capacitive load (µF)	Efficiency (%)
AM60EW-2412DZ	9-36	40/2747	±12	±2.5	±3900	91
AM60EW-2415DZ	9-36	50/2747	±15	±2	±2400	91
AM60EW-4812DZ	18-75	40/1373	±12	±2.5	±3900	91
AM60EW-4815DZ	18-75	50/1373	±15	±2	±2400	91

Add suffix “-K” for optional heatsink

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	24	9-36		VDC
	48	18-75		
Filter	π(Pi) Network			
Start up time		60		ms
Absolute Maximum Rating	24		50	VDC
	48		100	
Peak Input Voltage time			100	ms
Input reflected ripple current	Measured with the referenced circuit	20		mA p-p
Under Voltage Lockout (On/Off)	(24V model) (48V model)	8.6/7.9 17.8/16		VDC
Remote On / OFF Control	ON: 3 ~12Vdc or Open Circuit OFF: 0 ~ 1.2Vdc or Short pin 2 & 3 (idle current 5mA typical)			VDC

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60s		1600	VDC
Case Input & Output	60s		1600	VDC
Resistance		>1000		MOhm
Capacitance		2200		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy			±1	%
Over voltage protection		Zener Diode Clamp		
Over load protection	Hiccup	120%~140%		
Short Circuit protection		Indefinite		
Short circuit restart				
Thermal shutdown	On Case	120		ºC
Line voltage regulation		±0.5		% of Vin
Load voltage regulation	0% to 100% Full Load, Single Dual Output		±0.5 ±1	%
Temperature coefficient		±0.02		%/ºC
Ripple & Noise	20MHz Bandwidth		100	mV p-p
Transient Response Deviation		±3		% of Max
Transient Recovery		250		µsec
Voltage adjustment range		±10		%

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	225		KHz
Operating temperature	With derating (see graph below)	-40 to +75		ºC
Storage temperature	-55 to +125			ºC
Maximum case temperature			110	ºC
Cooling	Free Air Convection			
Humidity			95	% RH
Case material	Non-conductive Black Plastic (UL94V-0 rated)			
Weight	45			g
Dimensions (L x W x H)	2.00 x 1.00 x 0.45 inches 50.8 x 25.4 x 11.43 mm			
MTBF	>210 000 hrs (MIL-HDBK-217 F at +25 ºC)			
Maximum soldering temperature	1.5mm from case for 10 sec	260		ºC

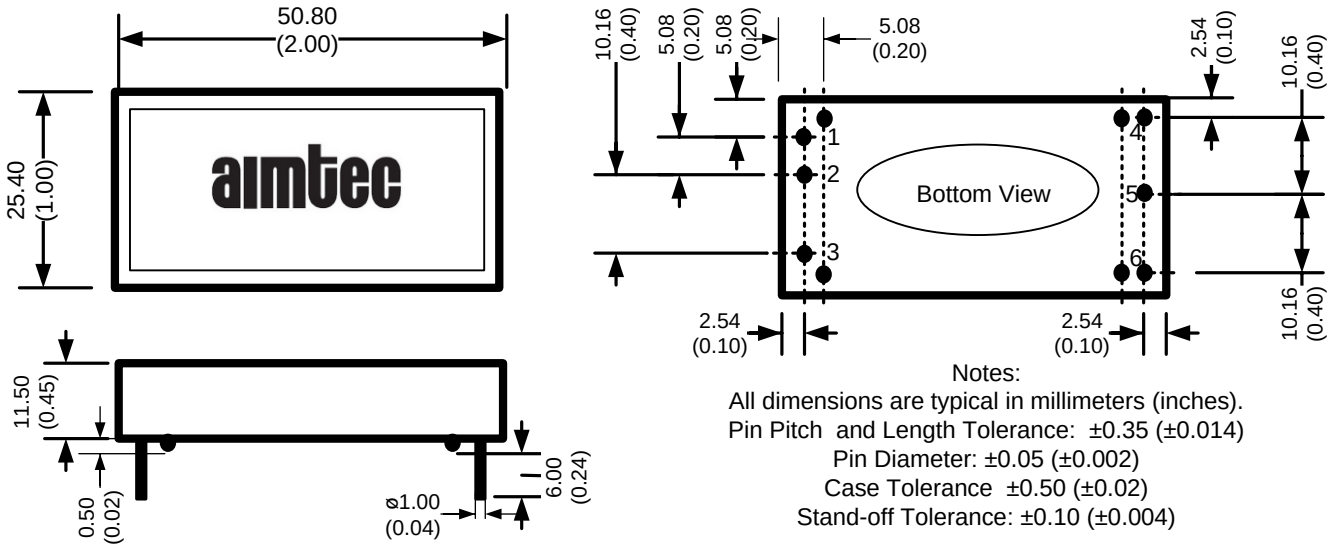
Safety Specifications

Parameters		
Agency approvals	CE, UL (pending)	
Standards	EMI - Conducted and radiated emission	EN55022, class A (with the recommended EMI circuit), EN55024: 2010
	Electrostatic Discharge Immunity	IEC 61000-4-2, Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4, Criteria A, (with the recommended EMC circuit)
	Surge Immunity	IEC 61000-4-5, Criteria A, (with the recommended EMC circuit)
	RF, Conducted Disturbance Immunity	IEC 61000-4-6, Criteria A
	Power frequency Magnetic Field Immunity	IEC 61000-4-8, Criteria A

Pin Out Specifications

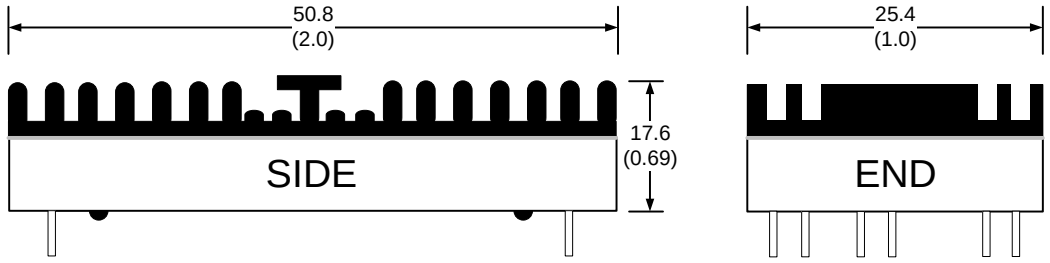
Pin	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
3	On/Off Control	On/Off Control
4	+V Output	+V Output
5	-V Output	Common
6	Trim	-V Output

Dimensions



Notes:
All dimensions are typical in millimeters (inches).
Pin Pitch and Length Tolerance: ±0.35 (±0.014)
Pin Diameter: ±0.05 (±0.002)
Case Tolerance ±0.50 (±0.02)
Stand-off Tolerance: ±0.10 (±0.004)

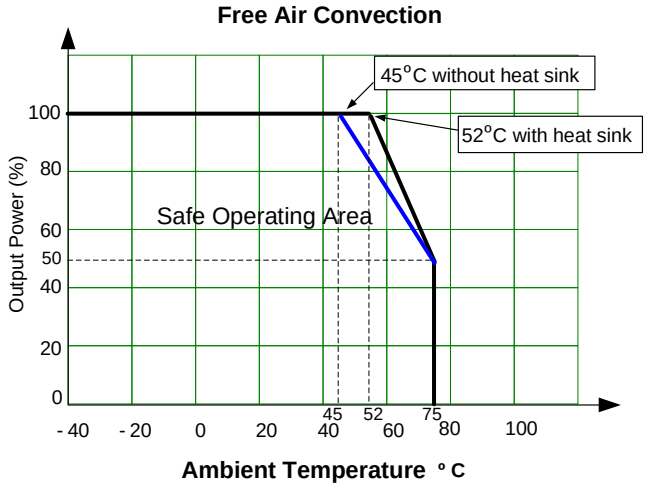
Dimensions with Optional Heatsink



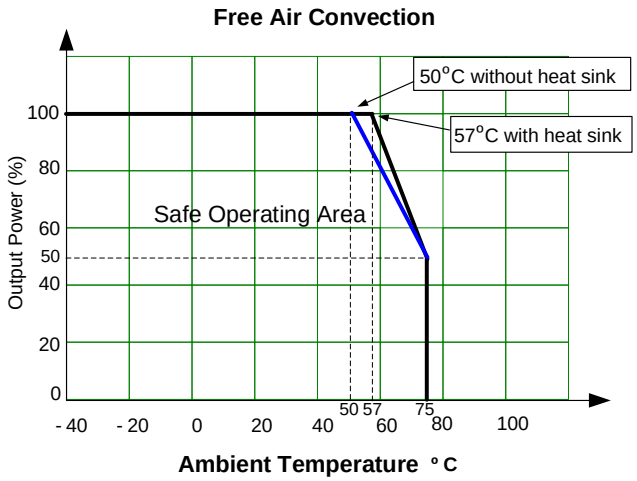
Notes: Add “-K” suffix for ordering, heatsink is affixed with thermally dissipative adhesive tape.
See derating graph for temperature performance. Heatsink material is anodized (black) aluminum, adds weight 11g to total mass (56g). Thermal impedance of converter is: without heatsink 9.5°C/W and 8.5°C/W with heatsink.

Derating

AM60EW-2405SZ

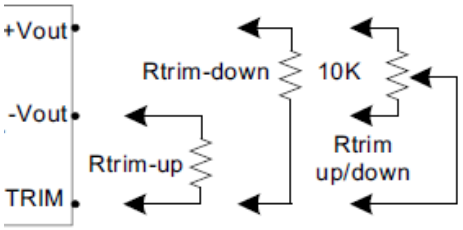


Others



Extended temperature performance can be achieved with optional heatsink. (add suffix "–K" to part number).

Trimming



Leave open if not used.

AM60EW-xx05SZ

Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	4.95	4.9	4.85	4.8	4.75	4.7	4.65	4.6	4.55	4.5
Rt down (KΩ)	151.46	133.91	83.26	59.01	44.79	35.44	28.82	23.89	20.08	17.04
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	5.05	5.1	5.15	5.2	5.25	5.3	5.35	5.4	5.45	5.5
Rt up (KΩ)	256.85	37.9	23.95	16.71	12.27	9.27	7.11	5.48	4.21	3.18

AM60EW-xx12SZ

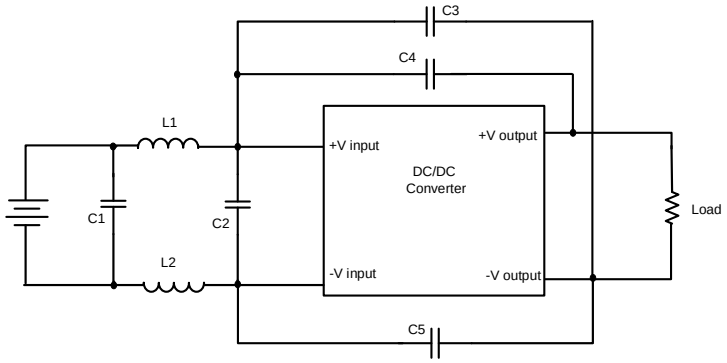
Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	11.88	11.76	11.64	11.52	11.4	11.28	11.16	11.04	10.92	10.8
Rt down (KΩ)	638.7	309.72	198.29	142.24	108.49	85.95	69.83	57.73	48.31	40.76
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	12.12	12.24	12.36	12.48	12.6	12.72	12.84	12.96	13.08	13.2
Rt up (KΩ)	215.45	97.18	58.4	39.13	27.61	19.94	14.48	10.38	7.2	4.65

AM60EW-xx15SZ

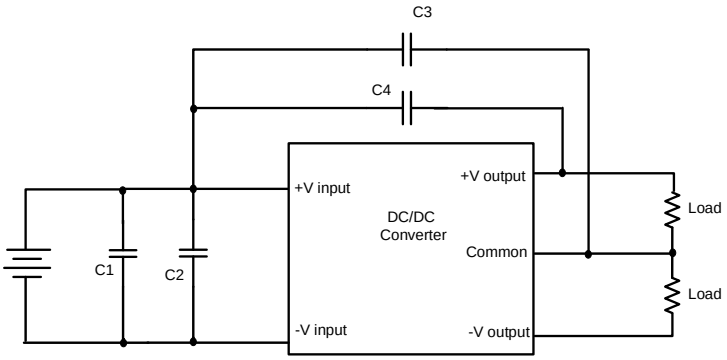
Trim down %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	14.85	14.7	14.55	14.4	14.25	14.1	13.95	13.8	13.65	13.5
Rt down (KΩ)	842.92	431.72	283.82	207.67	161.24	129.97	107.49	90.54	77.31	66.69
Trim up %	1	2	3	4	5	6	7	8	9	10
Vout (VDC)	15.15	15.3	15.45	15.6	15.75	15.9	16.05	16.2	16.35	16.5
Rt up (KΩ)	233.53	99.39	58.51	38.73	27.05	19.35	13.89	9.82	6.66	4.14

EMI recommended circuit

Single output models



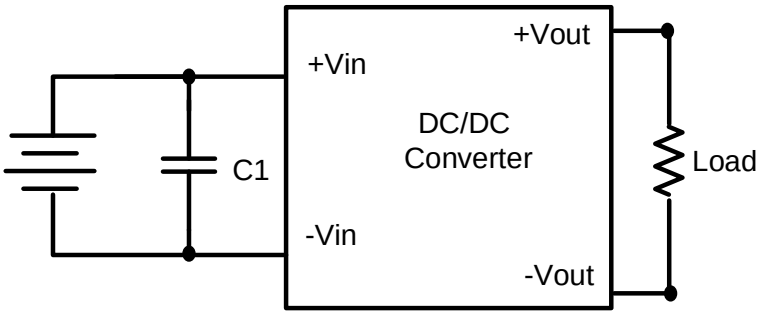
Dual output models



Vin single output	C1, C2	L1, L2	C3	C4, C5
24V	4.7 µF / 50V	12 µH	470 pF / 2KV	1 nF / 2KV
48V	1.5 µF / 100V			

Vin dual output	C1, C2	C3	C4
24V	4.7 µF / 50V	220 pF / 2KV	1.5 nF / 2KV
48V	1.5 µF / 100V		

EFT/Surge Circuit recommendation



Vin	C1	D1
24V	330 µF / 100V	TVS 58V, 3KW
48V		TVS 120V, 3KW

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