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AM30CW-EZ



1 x 1

The AM30CW-EZ is a 30W DC/DC converter that offers a regulated output which contributes to a more stable and reliable output performance. It features a wide 4:1 input voltage range of 9-75VDC, which will benefit your new system design.

This series offers great operating temperatures, from -40°C to 75°C. Furthermore, an isolation of 1500VDC, a high MTBF of 1,200,000h, continuous output short circuit protection (OSCP), over-current protection (OCP) and over-voltage protection (OVP) come standard with the series.

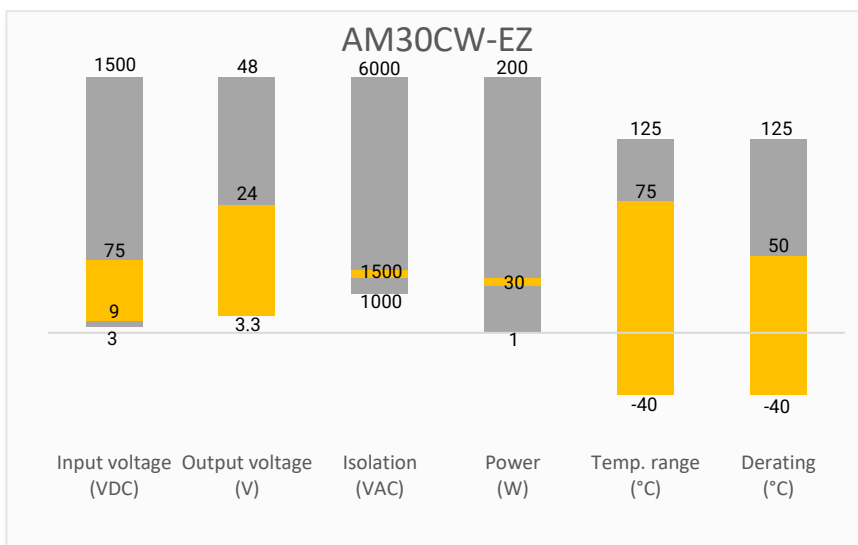
The AM30CW-EZ is suitable for grid power, instrumentation, industrial controls, communication, and civil applications.

Features

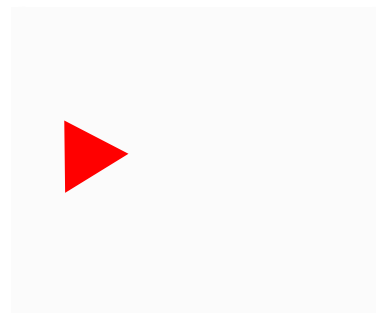
- Operating Temp: -40 °C to +75 °C
- Isolation voltage: 1500VDC
- High efficiency: Up to 92% typ.
- Regulated single output
- Output short circuit, over-current, over-voltage
- Standard 1 x1 package
- Made in Taiwan



Summary



Training



Product Training Video
(click to open)



Press Release

Coming Soon!

Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Nominal Vin Input Current Max (mA)		Output Current Max (mA)	Efficiency Full Load Typ (%)
			No Load	Full Load		
AM30CW-2403SEZ	24 (9-36)	3.3	10	1119	7000	86
AM30CW-2405SEZ	24 (9-36)	5	10	1420	6000	88
AM30CW-2412SEZ	24 (9-36)	12	10	1404	2500	89
AM30CW-2415SEZ	24 (9-36)	15	10	1404	2000	89
AM30CW-2424SEZ	24 (9-36)	24	10	1389	1250	90
AM30CW-4803SEZ	48 (18-75)	3.3	7	553	7000	87
AM30CW-4805SEZ	48 (18-75)	5	7	702	6000	89
AM30CW-4812SEZ	48 (18-75)	12	7	694	2500	90
AM30CW-4815SEZ	48 (18-75)	15	7	687	2000	91
AM30CW-4824SEZ	48 (18-75)	24	7	679	1250	92

Add suffix "-K" for optional heat sink.

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage types			4:1	
Absolute maximum rating	24Vin, 1s max.		50	VDC
	48Vin, 1s max.		100	VDC
Start-up time	Nominal input		30	ms
On/Off control	On	Control pin open or 3.5-12VDC		
	Off	Control pin short to -Vin or 0-1.2VDC		
	Input current of Ctrl pin	-0.5 ~ +1.0		mA
	Remote off input current	2.0		mA

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested isolation voltage	Input To Output	≥1500		VDC
	Input (Output) To Case	≥1000		VDC
Resistance	Input / output, 500VDC	≥1000		MΩ

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	100% load		±2	%
Line regulation	Nominal Input Voltage		±0.5	%
Load regulation			±0.5	%
Transient Recovery Time	25% load step change	350		μs
Ripple & Noise*	3.3V & 5V with 22μF 12V & 15V with 2*22μF 24V with 2*6.8μF		100	mV pk-pk

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.

General Specifications

Parameters	Conditions	Minimum	Typical	Maximum	Units
Switching frequency	3.3 & 5.0 Vout models:	245	275	305	KHz
	Other models:	300	330	360	KHz
Short circuit protection	Continues, Auto recovery				
Output Power protection	Continues, Auto recovery	110		170	%
Over voltage protection	3.3VDC	3.7		5.4	VDC
	5VDC	5.6		7.0	VDC
	12VDC	13.5		19.6	VDC
	15VDC	18.3		22.0	VDC
	24VDC	29.1		32.5	VDC
Operating temperature	Without Heatsink	-40		75	°C
	With Heatsink	-40		77	°C
Case temperature				105	°C
Temperature coefficient	100% Load			± 0.03	%/ °C
Cooling	Natural Convection (20LFM)				
Humidity	Non-condensing		≥5	95	% RH
Weight	Without Heatsink		22		
	With Heatsink		24.5		g
Dimensions (L x W x H)	Without Heatsink	1.00x 1.00 x 0.42 inches (25.4 x 25.4 x 10.6 mm)			
	With Heatsink	1.00x 1.00 x 0.67 inches (25.4 x 25.4 x 16.9 mm)			
Case material	Six-side shield case				
MTBF	≥ 1 200 000 hrs (MIL-HDBK -217F, t=+25°C)				

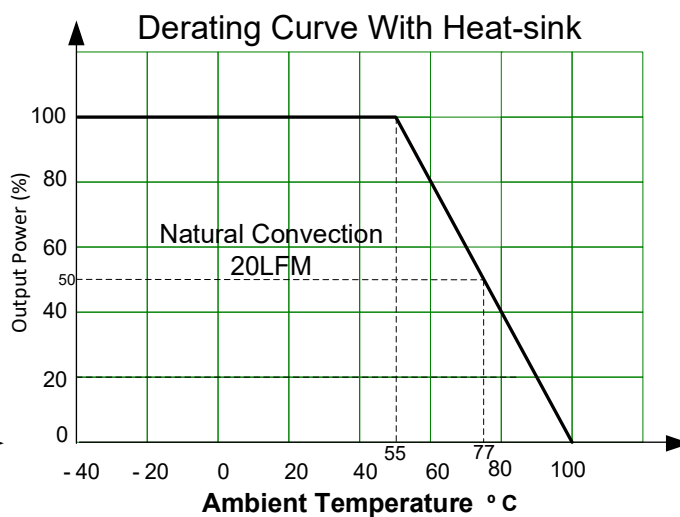
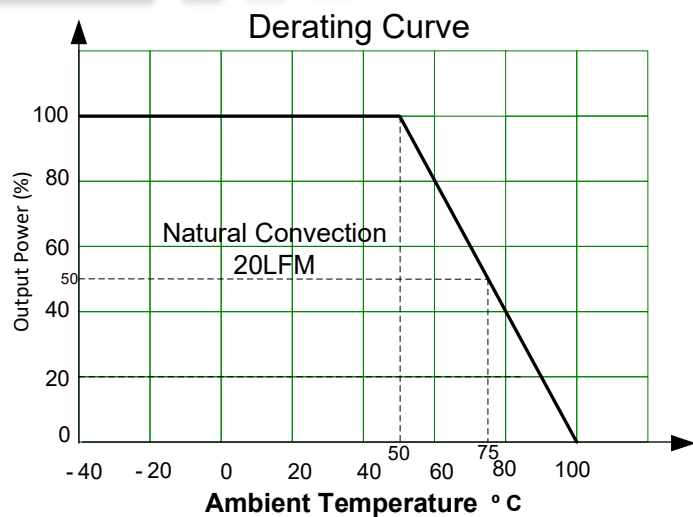
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

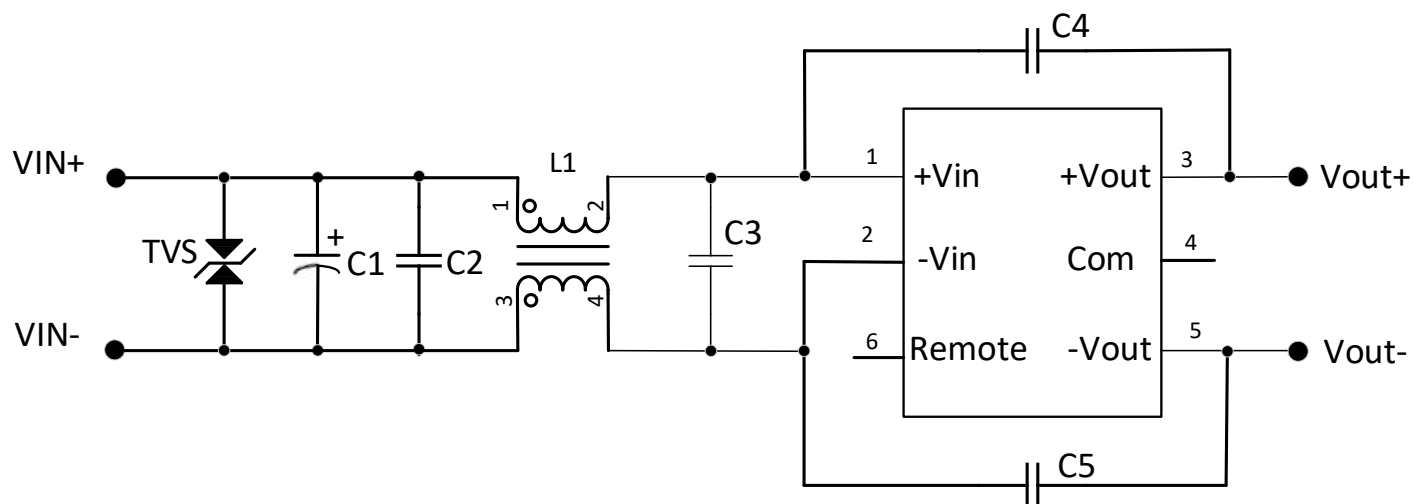
Parameters

Standards	Designed to meet IEC/UL/EN62368-1	
	EMI - Conducted and radiated emission	CISPR32/EN55032 Class B
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2
	RF, Electromagnetic Field Immunity	IEC/EN 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC/EN 61000-4-4
	Surge Immunity	IEC/EN 61000-4-5

Derating



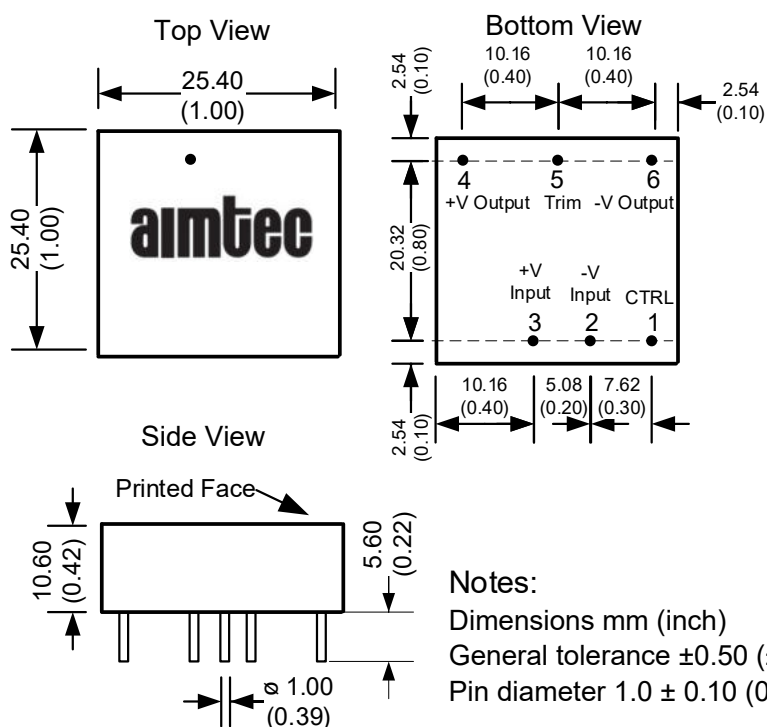
Recommended Test Circuit



Single output							
Vin	C1	C2	C3	C4	C5	L1	TVS
24	220 μ F/100V	4.7 μ F/50V	4.7 μ F/50V	2200pF/2kV	2200pF/2kV	0.94mH	3.0SMCJ58AG
48	220 μ F/100V	4.7 μ F/100V	4.7 μ F/100V	3200pF/2kV	3200pF/2kV	6.20mH	3.0SMCJ120AG

Dimension

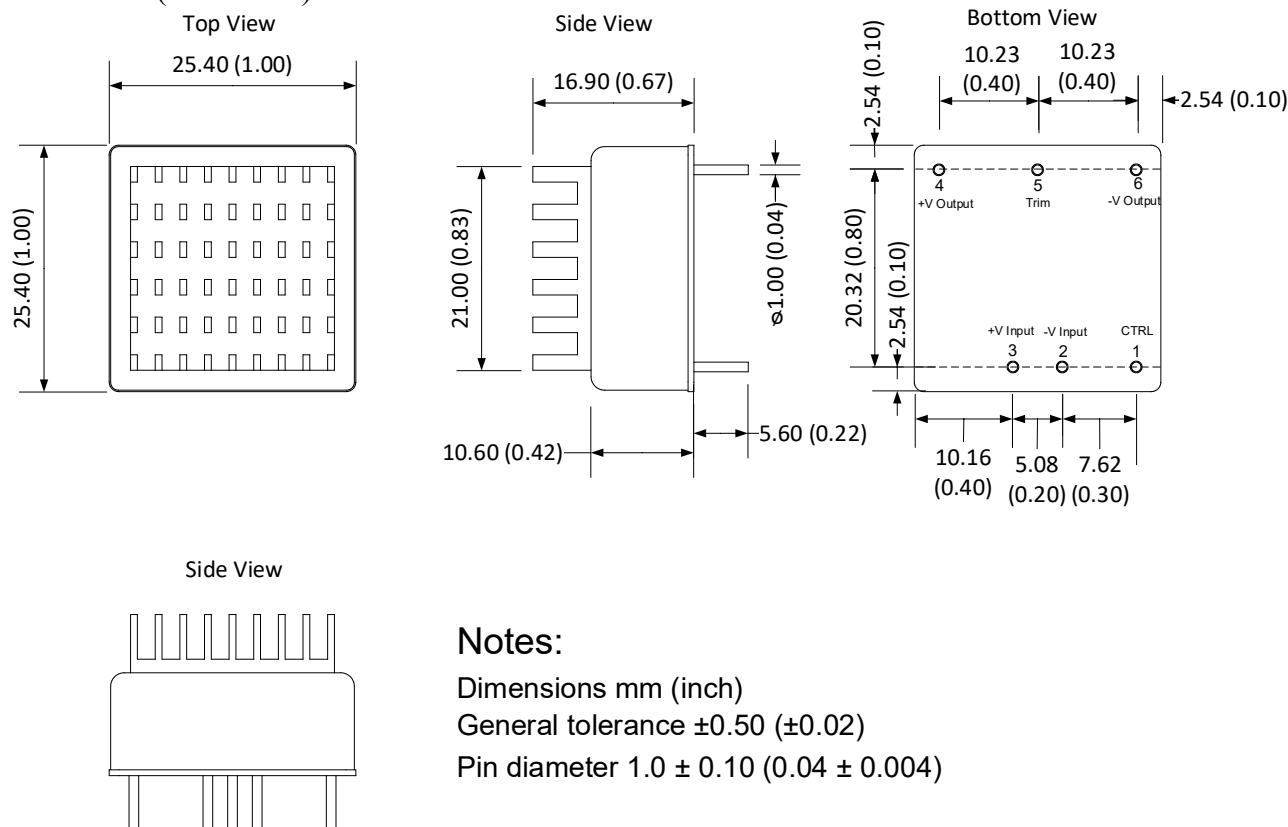
Without heat-sink



Pin Out Specifications	
Pin	Single
1	On/off control
2	-Vin
3	+Vin
4	+Vout
5	Trim
6	-Vout

Notes:
Dimensions mm (inch)
General tolerance ± 0.50 (± 0.02)
Pin diameter 1.0 ± 0.10 (0.04 ± 0.004)

With heat-sink (-K models)



Notes:

Dimensions mm (inch)

General tolerance ± 0.50 (± 0.02)

Pin diameter 1.0 ± 0.10 (0.04 ± 0.004)

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.