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AM20CW-EZ



1" x 1"

The AM20CW-EZ is a 20W 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 with full power up to 50°C. It also features an isolation of 1500VDC for improved reliability and system safety.

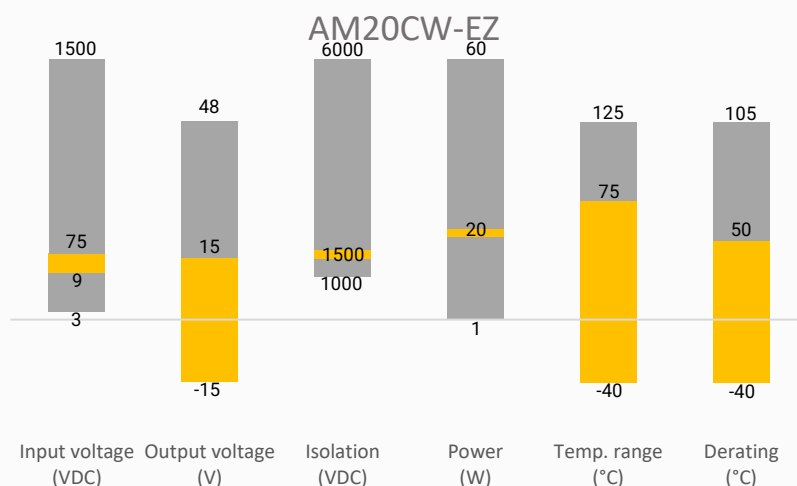
The AM20CW-EZ is great for distributed power supply systems, industrial controls, power grid, instruments, and communications applications.

Features

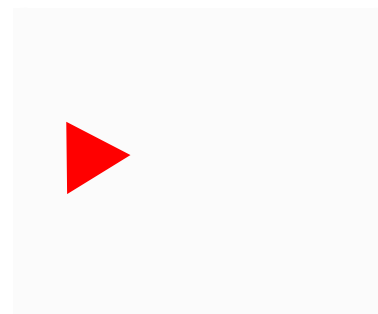
- Operating Temp: -40 °C to +75 °C
- High isolation voltage: 1500VDC
- Low ripple & noise, 100mV (p-p), typ.
- Regulated Output
- 1" x 1" package
- Output short circuit protection
- Made in Taiwan



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)	Input Current (mA TYP)		Output Current Max (mA) Full Load	Maximum Capacitive Load (μF)	Efficiency Full Load Typ. (%)
			No Load	Full Load			
AM20CW-2403SEZ	24 (9-36)	3.3	70	719	4500	6600	86
AM20CW-2405SEZ	24 (9-36)	5	70	947	4000	6600	88
AM20CW-2412SEZ	24 (9-36)	12	25	938	1670	960	89
AM20CW-2415SEZ	24 (9-36)	15	25	924	1330	470	90
AM20CW-4803SEZ	48 (18-75)	3.3	30	360	4500	6600	86
AM20CW-4805SEZ	48 (18-75)	5	30	473	4000	6600	88
AM20CW-4812SEZ	48 (18-75)	12	15	474	1670	330	88
AM20CW-4815SEZ	48 (18-75)	15	15	472	1330	330	88

Dual Output							
Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Max (mA)		Output Current Max (mA) Full Load	Maximum Capacitive Load (μF)	Efficiency (%) Full Load Typ.
			No Load	Full Load			
AM20CW-2412DEZ	24 (9-36)	±12	25	936	±833	470	89
AM20CW-2415DEZ	24 (9-36)	±15	25	937	±667	330	89
AM20CW-4812DEZ	48 (18-75)	±12	25	468	±833	330	89
AM20CW-4815DEZ	48 (18-75)	±15	25	468	±667	220	89

Input Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage Types			4:1	
Filter	LC Network			
On/Off control	ON - open or pulled high (3.5 - 12 VDC) OFF - pulled low to GND (0 - 1.2 VDC), idle current 10mA max.			

Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
Tested isolation voltage	Input / output 60 sec, ≤ 1mA	1500		VDC
Resistance	500VDC	≥1000		MΩ

Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	Full load @Vin (nom.)		±2	%
Line regulation			±0.5	%
Load regulation	Single		±0.5	%
	Dual (Balance Load)		±1	%
Short circuit protection	Hiccup, Auto recovery			
Cross Regulation	Dual (25% to 100% Load)		±5	%
Transient response setting time	25% load step change	300		μs
Ripple & Noise	20MHz bandwidth		100	mV pk-pk

General Specifications

Parameters	Conditions	Minimum	Typical	Maximum	Units
Switching frequency			330		KHz
Operating temperature	With derating	-40		75	°C
Storage temperature		-55		125	°C
Temperature coefficient	100% Load			± 0.03	%/°C
Cooling	Natural Convection (20LFM)				
Humidity	Non-condensing	5		95	% RH
Base material	Nickel coated copper with non-conductive base				
Weight			16.5		g
Dimensions (L x W x H)	1.00 x 1.00 x 0.42 inches (25.40 x 25.40 x 10.60 mm)				
MTBF	> 340 000 hrs (MIL-HDBK -217F, t=+25°C)				

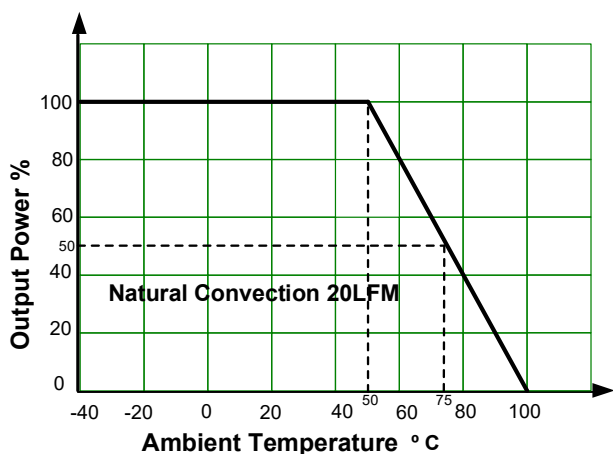
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

Parameters

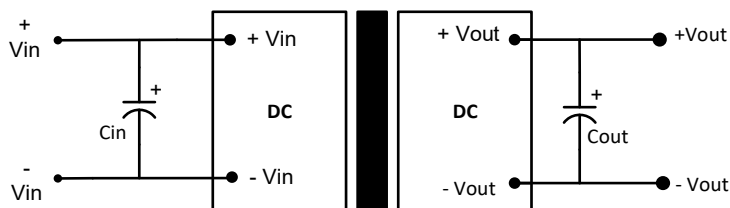
Standards	Designed to meet IEC/UL/EN62368-1	
	EMI - Conducted and radiated emission	CISPR32/EN55032
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2
	RF, Electromagnetic Field Immunity	IEC/EN 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC/EN 61000-4-4
	Surge Immunity	IEC/EN 61000-4-5

Derating

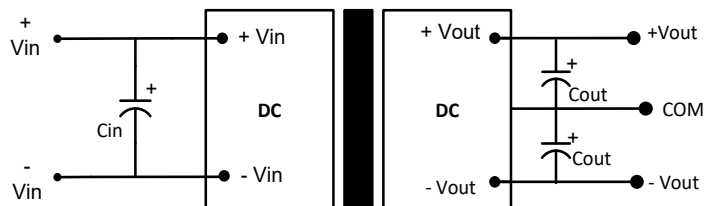


Typical Application Circuit

Single

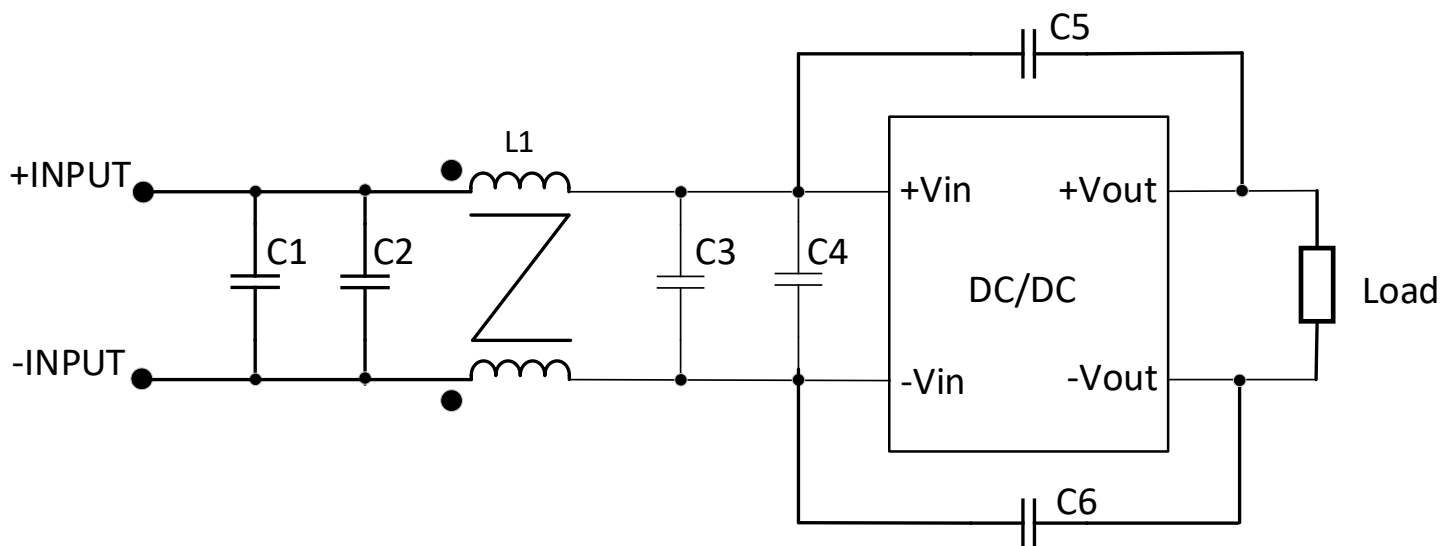


Dual



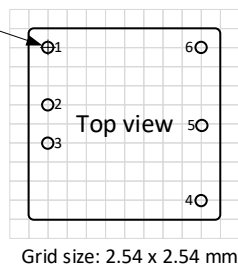
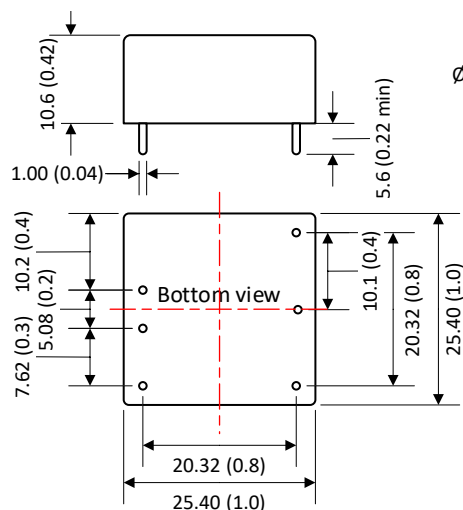
Vin	Cin	Single Vout	Cout	Dual Vout	Cout
24VDC	10μF/100V	3.3VDC	100μF/25V	±12VDC	100μF/25V
48VDC	10μF/100V	5VDC		±15VDC	
		12VDC			
		15VDC			

EMI Application Circuit



Parameter Description			
Component	Value	Voltage	Reference
C1	220μF	100V	Electrolytic capacitor
C2, C3	4.7μF	100V	1812 MLCC
C5, C6	2200pF	2KV	1206 MLCC
L1	0.94mH		Common Mode Choke

Dimensions



Note:
 Unit: mm (inch)
 Pin tolerance: ± 0.05 (0.002)
 General tolerance: ± 0.5 (0.02)

Pin Out Specifications		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-V Input	-V Input
3	+V Input	+V Input
4	+V Output	+V Output
5	Trim	Com
6	-V Output	-V Output

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