AM2DM-EZ

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SIP7 Package

The AM2DM-EZ is a 2W SIP7 DC/DC converter that offers great cost savings thanks to an improved manufacturing process. It also features excellent reliability and performance while offering a standard input voltage range of 5-24VDC as well as an output voltage of -5-24V. This compact SIP7 design will surely benefit your new system design.

This new series offers great operating temperatures, from -40 to 105°C with full power up to 85°C. Also, an isolation of 5000VAC or 6000VDC for improved reliability and system safety as well as a great 3,500,000h MTBF come standard.

The AM2DM-EZ is suitable for many applications such as medical collection isolation, high voltage collection circuits, and IGBT drive circuits.

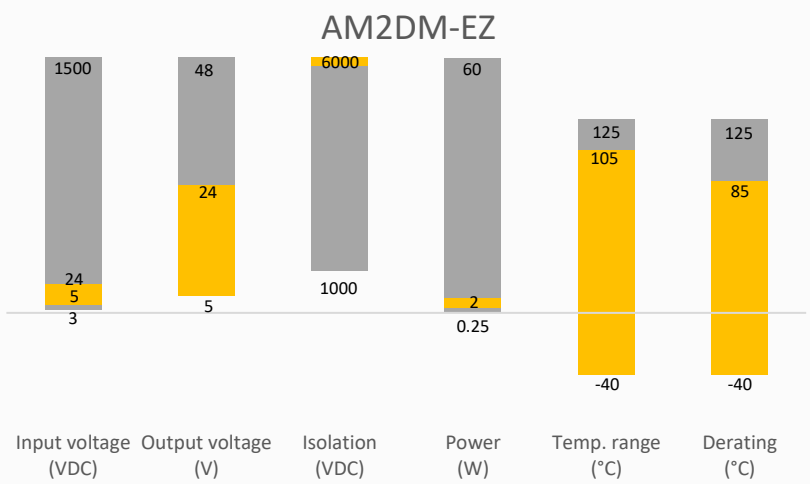
Features

- High I/O Isolation of 5000VAC or 6000VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +105 °C
- Industry standard SIP7 pin-out
- Efficiency up to 84%
- Unregulated output
- Leakage current < 2µA
- Creepage & clearance distance >5mm
- Meets IEC60601 standard

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Industrial

Portable Equipment

Medical

IoT

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max	Isolation (VAC/VDC)	Maximum capacitive Load (µF)	Efficiency Typ. (%)
AM2DM-0505SH60EZ	5 (4.5-5.5)	5	400	5000/6000	1000	80
AM2DM-0509SH60EZ	5 (4.5-5.5)	9	222	5000/6000	680	80
AM2DM-0512SH60EZ	5 (4.5-5.5)	12	167	5000/6000	330	81
AM2DM-0515SH60EZ	5 (4.5-5.5)	15	133	5000/6000	330	81
AM2DM-0524SH60EZ	5 (4.5-5.5)	24	84	5000/6000	100	81
AM2DM-1205SH60EZ	12 (10.8-13.2)	5	400	5000/6000	1000	80
AM2DM-1209SH60EZ	12 (10.8-13.2)	9	222	5000/6000	680	82
AM2DM-1212SH60EZ	12 (10.8-13.2)	12	167	5000/6000	330	84
AM2DM-1215SH60EZ	12 (10.8-13.2)	15	133	5000/6000	330	84
AM2DM-1224SH60EZ	12 (10.8-13.2)	24	84	5000/6000	100	84
AM2DM-1505SH60EZ	15 (13.5-16.5)	5	400	5000/6000	1000	80
AM2DM-1509SH60EZ	15 (13.5-16.5)	9	222	5000/6000	680	82
AM2DM-1512SH60EZ	15 (13.5-16.5)	12	167	5000/6000	330	84
AM2DM-1515SH60EZ	15 (13.5-16.5)	15	133	5000/6000	330	84
AM2DM-1524SH60EZ	15 (13.5-16.5)	24	84	5000/6000	100	84
AM2DM-2405SH60EZ	24 (21.6-26.4)	5	400	5000/6000	1000	80
AM2DM-2409SH60EZ	24 (21.6-26.4)	9	222	5000/6000	680	82
AM2DM-2412SH60EZ	24 (21.6-26.4)	12	167	5000/6000	330	84
AM2DM-2415SH60EZ	24 (21.6-26.4)	15	133	5000/6000	330	84
AM2DM-2424SH60EZ	24 (21.6-26.4)	24	84	5000/6000	100	84

Dual Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max | min (mA)*	Isolation (VAC/VDC)	Maximum capacitive Load (µF)	Efficiency Typ. (%)
AM2DM-0505DH60EZ	5 (4.5-5.5)	±5	±200	5000/6000	±470	80
AM2DM-0509DH60EZ	5 (4.5-5.5)	±9	±111	5000/6000	±330	80
AM2DM-0512DH60EZ	5 (4.5-5.5)	±12	±84	5000/6000	±100	81
AM2DM-0515DH60EZ	5 (4.5-5.5)	±15	±67	5000/6000	±100	81
AM2DM-0524DH60EZ	5 (4.5-5.5)	±24	±42	5000/6000	±47	81
AM2DM-1205DH60EZ	12 (10.8-13.2)	±5	±200	5000/6000	±470	80
AM2DM-1209DH60EZ	12 (10.8-13.2)	±9	±111	5000/6000	±330	82
AM2DM-1212DH60EZ	12 (10.8-13.2)	±12	±84	5000/6000	±100	84
AM2DM-1215DH60EZ	12 (10.8-13.2)	±15	±67	5000/6000	±100	84
AM2DM-1224DH60EZ	12 (10.8-13.2)	±24	±42	5000/6000	±47	84
AM2DM-1505DH60EZ	15 (13.5-16.5)	±5	±200	5000/6000	±470	80
AM2DM-1509DH60EZ	15 (13.5-16.5)	±9	±111	5000/6000	±330	82
AM2DM-1512DH60EZ	15 (13.5-16.5)	±12	±84	5000/6000	±100	84
AM2DM-1515DH60EZ	15 (13.5-16.5)	±15	±67	5000/6000	±100	84
AM2DM-1524DH60EZ	15 (13.5-16.5)	±24	±42	5000/6000	±47	84
AM2DM-2405DH60EZ	24 (21.6-26.4)	±5	±200	5000/6000	±470	80
AM2DM-2409DH60EZ	24 (21.6-26.4)	±9	±111	5000/6000	±330	82

AM2DM-2412DH60EZ	24 (21.6-26.4)	±12	±84	5000/6000	±100	84
AM2DM-2415DH60EZ	24 (21.6-26.4)	±15	±67	5000/6000	±100	84
AM2DM-2424DH60EZ	24 (21.6-26.4)	±24	±42	5000/6000	±47	84

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Filter	Capacitor			
Input Voltage Tolerance	Vo, Io Nom	±10		%

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec	5000		VAC
		6000		VDC
Patient leakage current	250VAC, 50/60Hz		2	µA
Resistance	500VDC	>1000		MΩ
Capacitance	100kHz/0.1V	4		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	100% full load		±5	%
Line regulation	Per 1% Vin change	1.2		%
Load regulation	10-100% load, 5V output models		20	%
	10-100% load, other output models		15	%
Ripple & Noise*	5V output models	100	150	mV p-p
	Other output models	80	120	mV p-p

* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the Typical test circuit.

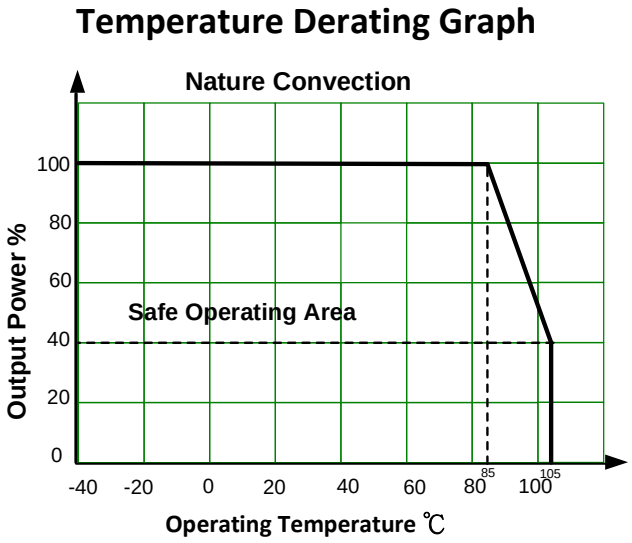
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load, nominal input voltage 5V output models	215		KHz
	100% load, nominal input voltage other output models	250		KHz
Short circuit protection	Continuous			
Operating temperature		-40 to +105		°C
Storage temperature		-55 to +125		°C
Cooling	Free air convection			
Humidity	Non-condensing		95	% RH
Case material	DAP			
Weight		4.0		g
Dimensions (L x W x H)	0.77 x 0.39 x 0.49 inches (19.50 x 9.80 x 12.50 mm)			
MTBF	3 500 000 hrs (MIL-HDBK -217F, t=+25°C)			
Creepage & clearance distance	Minimum of 5 mm			

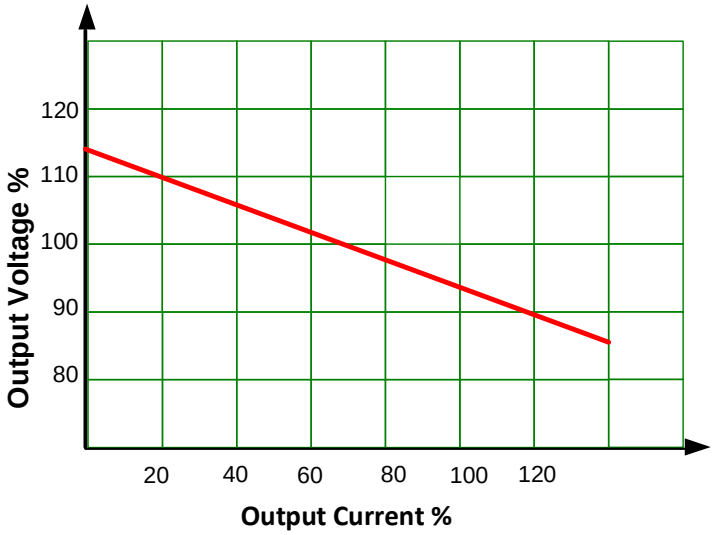
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications		
Parameters		
Standards	Information technology equipment	Meets IEC60601
	EMC - Conducted and radiated emission	CISPR32/EN55032 CLASS B (see Recommended EMC circuit)
	Electrostatic Discharge Immunity	IEC/EN61000-4-2 Air ±8kV, Contact ±6kV perf. Criteria B

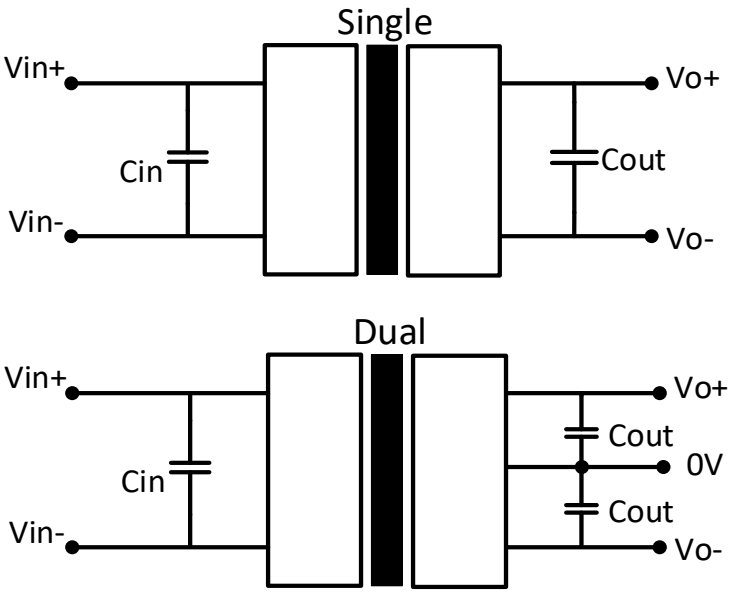
Derating



Tolerance Envelop Graph



Typical test circuit

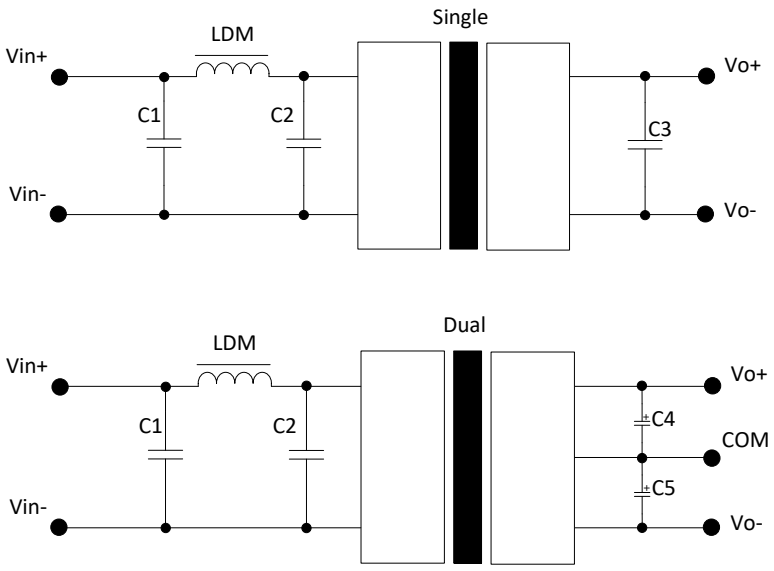


Vin	Cin
5VDC	4.7μF/25V
12VDC	2.2μF/25V
15VDC	2.2μF/25V
24VDC	1μF/50V

Single Vout	Cout
5VDC	10μF/16V
9VDC	2.2μF/16V
12VDC	2.2μF/25V
15VDC	1μF/25V
24VDC	1μF/50V

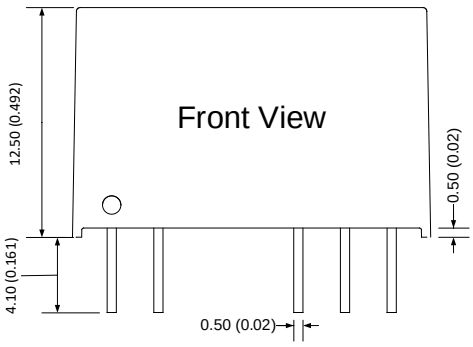
Dual Vout	Cout
±5VDC	4.7μF/16V
±9VDC	1μF/16V
±12VDC	1μF/25V
±15VDC	1μF/25V
±24VDC	1μF/50V

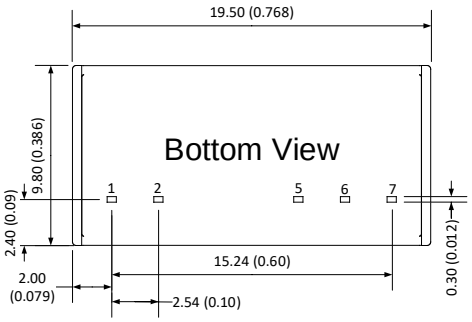
Recommended EMC circuit

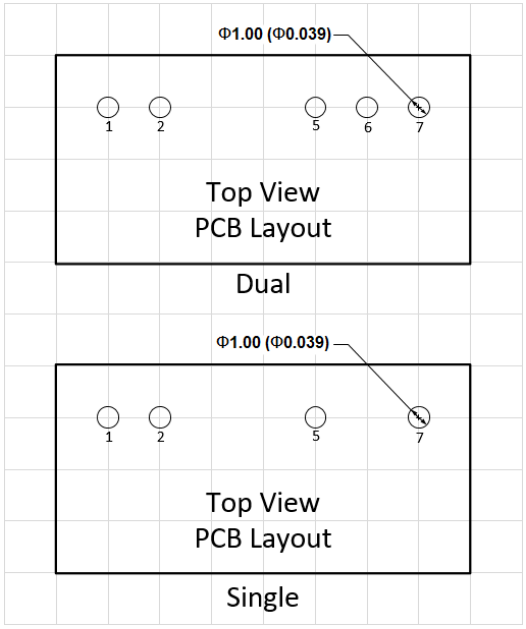


EMC recommended circuit value table	
C1	22μF/50V
C2	22μF/50V
C3	Refer Typical test circuit
C4	Refer Typical test circuit
C5	Refer Typical test circuit
LDM	22μH

Dimensions







Pin Out Specifications		
Pin	Single output	Dual output
1	+V Input	+V Input
2	-V Input	-V Input
5	-V Output	-V Output
6	No Pin	Com
7	+V Output	+V Output

Note:
Grid 2.54 x 2.54mm
Unit: mm(inch)
General tolerances: ±0.50(±0.020)