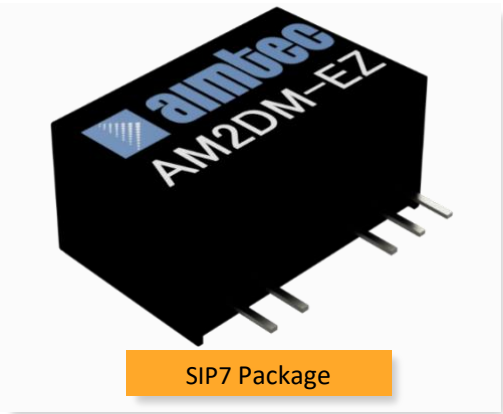


Click to
ORDER
samples

AM2DM-EZ



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.

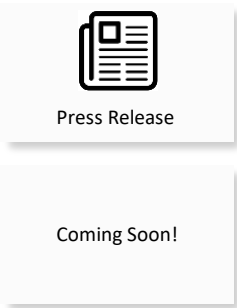
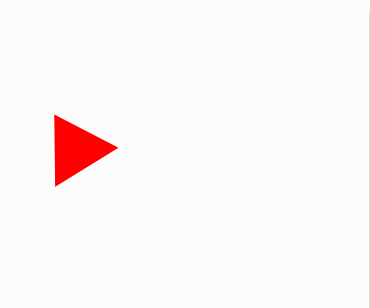
The AM2DM-EZ is suitable for many applications such as medical collection isolation, high voltage collection circuits, and IGBT drive circuits.

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
- Made in Taiwan



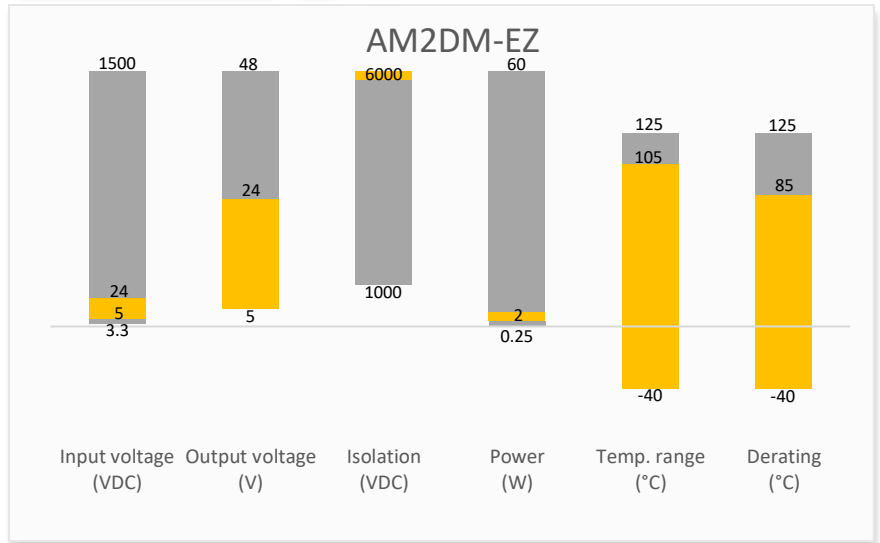
Training



Product Training Video
(click to open)

Application Notes

Summary



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		%
Absolute Max Input Voltage (1s)	Vin=5V			0.3 – 10	VDC
	Vin=12V			0.3 – 25	VDC
	Vin=15V			0.3 - 30	VDC
	Vin=24V			0.3 - 38	VDC

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
Creepage & clearance distance			>5		mm

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	Black plastic (flammability to UL 94V-0)				
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 _e =+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

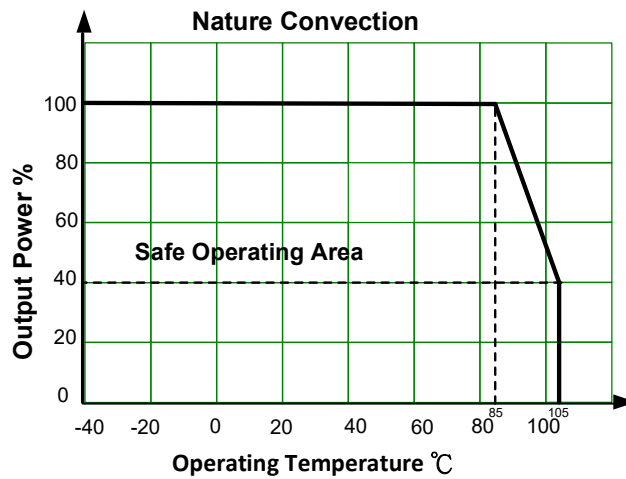
Parameters

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 $\pm 8\text{kV}$, Contact $\pm 6\text{kV}$ perf. Criteria B

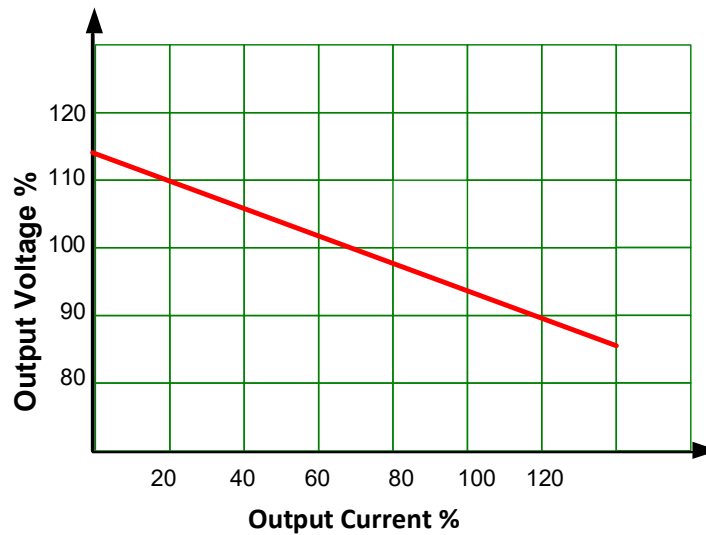
Derating



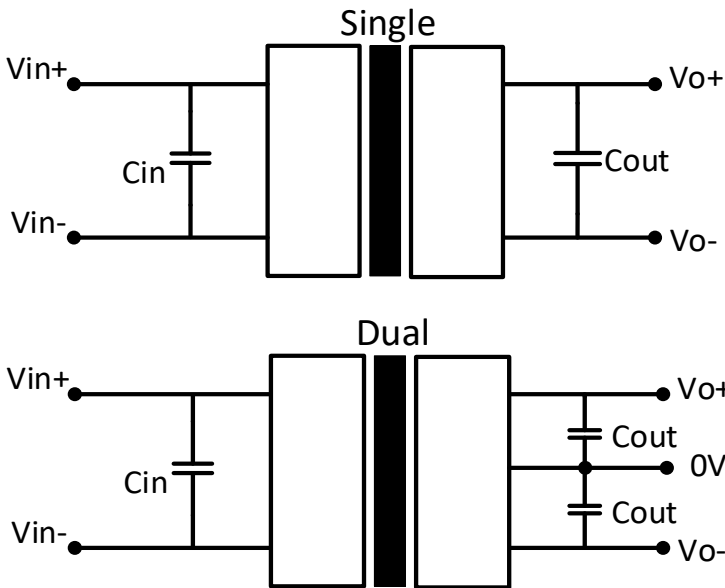
Temperature Derating Graph



Tolerance Envelop Graph



Typical test circuit

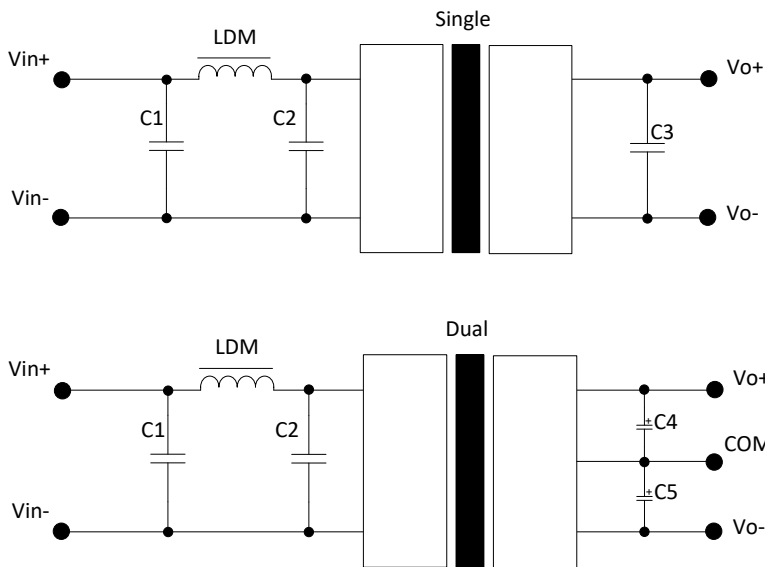


V_{in}	C_{in}
5VDC	4.7 μ F/25V
12VDC	2.2 μ F/25V
15VDC	2.2 μ F/25V
24VDC	1 μ F/50V

Single V_{out}	C_{out}
5VDC	10 μ F/16V
9VDC	2.2 μ F/16V
12VDC	2.2 μ F/25V
15VDC	1 μ F/25V
24VDC	1 μ F/50V

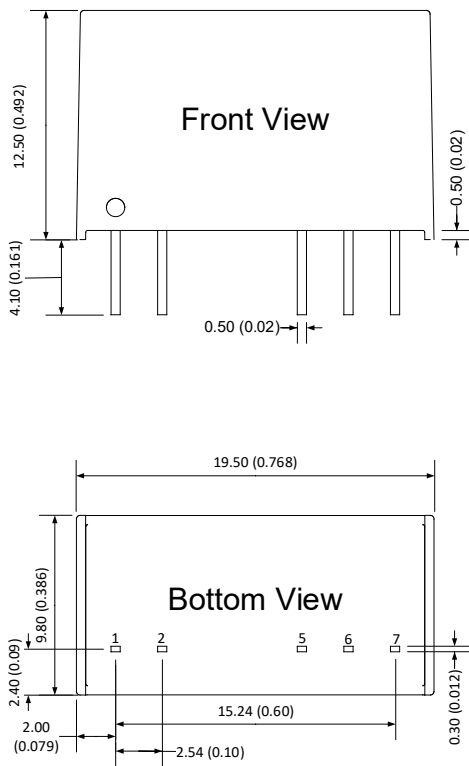
Dual V_{out}	C_{out}
\pm 5VDC	4.7 μ F/16V
\pm 9VDC	1 μ F/16V
\pm 12VDC	1 μ F/25V
\pm 15VDC	1 μ F/25V
\pm 24VDC	1 μ F/50V

Recommended EMC circuit



EMC recommended circuit value table	
C1	22 μ F/50V
C2	22 μ F/50V
C3	Refer Typical test circuit
C4	Refer Typical test circuit
C5	Refer Typical test circuit
LDM	22 μ H

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: $\pm 0.50(\pm 0.020)$

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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.