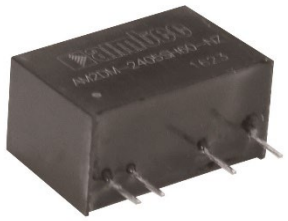
aimtec
Your Power Partner

Series AM2DM-NZ
2 Watt | DC-DC Converter



FEATURES:

- 7 pin SIP package
- High efficiency up to 84%
- Reinforced insulation
- Leakage current < 2µA
- Operating temperature -40˚C to + 85˚C
- Isolation voltage: 4200VAC or 6000VDC
- Ultra-low Isolation capacitance of 5pF
- IEC/EN/UL60601-1
- 1xMOPP/2xMOOP

CE RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max. Capacitive Load (µF)	Isolation (VAC)	Isolation (VDC)	Efficiency (%)
AM2DM-0505SH60-NZ	4.5-5.5	5	400	1000	4200	6000	77
AM2DM-0512SH60-NZ	4.5-5.5	12	167	470	4200	6000	79
AM2DM-0515SH60-NZ	4.5-5.5	15	133	470	4200	6000	79
AM2DM-1205SH60-NZ	10.8-13.2	5	400	1000	4200	6000	77
AM2DM-1212SH60-NZ	10.8-13.2	12	167	470	4200	6000	80
AM2DM-1215SH60-NZ	10.8-13.2	15	133	470	4200	6000	82
AM2DM-1505SH60-NZ	13.5-16.5	5	400	1000	4200	6000	77
AM2DM-2405SH60-NZ	21.6-26.4	5	400	1000	4200	6000	79
AM2DM-2412SH60-NZ	21.6-26.4	12	167	470	4200	6000	82
AM2DM-2415SH60-NZ	21.6-26.4	15	133	470	4200	6000	84

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max. Capacitive Load (µF)	Isolation (VAC)	Isolation (VDC)	Efficiency (%)
AM2DM-0505DH60-NZ	4.5-5.5	±5	±200	470	4200	6000	78
AM2DM-0509DH60-NZ	4.5-5.5	±9	±111	470	4200	6000	78
AM2DM-0512DH60-NZ	4.5-5.5	±12	±83	220	4200	6000	78
AM2DM-0515DH60-NZ	4.5-5.5	±15	±67	220	4200	6000	80
AM2DM-1205DH60-NZ	10.8-13.2	±5	±200	470	4200	6000	78
AM2DM-1209DH60-NZ	10.8-13.2	±9	±111	470	4200	6000	82
AM2DM-1212DH60-NZ	10.8-13.2	±12	±83	220	4200	6000	82
AM2DM-1215DH60-NZ	10.8-13.2	±15	±67	220	4200	6000	80
AM2DM-2405DH60-NZ	21.6-26.4	±5	±200	470	4200	6000	79
AM2DM-2409DH60-NZ	21.6-26.4	±9	±111	470	4200	6000	81
AM2DM-2412DH60-NZ	21.6-26.4	±12	±83	220	4200	6000	82
AM2DM-2415DH60-NZ	21.6-26.4	±15	±67	220	4200	6000	81

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	15	13.5-16.5		
	24	21.6-26.4		
Absolute Max Input Voltage (1s)	5V		-0.7 - 9	VDC
	12V		-0.7 - 18	
	15V		-0.7 - 21	
	24V		-0.7 - 30	
Filter	Capacitor			
Input reflected ripple current		200		mA p-p
Input Current (no load/full load)	5	35/274		mA
	12	15/114		
	15	18/171		
	24	10/56		

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60sec		4200	VAC
			6000	VDC
Resistance		> 1000		MOhm
Capacitance		5		pF
Leakage current	250VAC, 50/60Hz		2	µA

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See tolerance graph			
Short Circuit protection	Momentary (3 sec.)			
Line voltage regulation	For 1.0% of Vin		±1.2	% of Vout
Load voltage regulation	10~100% load, 5V 10~100% load, Others		20 15	%
Temperature coefficient	Full load	±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	100	150	mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	100		KHz
Max Case temperature			100	°C
Operating temperature	With no derating	-40 to +85		°C
Storage temperature	-55 to +125			°C
Cooling	Free air convection			
Humidity			95	%
Case material	Black flame-retardant and heat-resistant plastic (UL94V-0)			
Weight		4.2		g
Dimensions (L x W x H)		0.77 x 0.39 x 0.49 inch	19.50 x 9.80 x 12.5 mm	
MTBF	>3,500,000 hrs (MIL-HDBK -217F, Ground Benign, 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

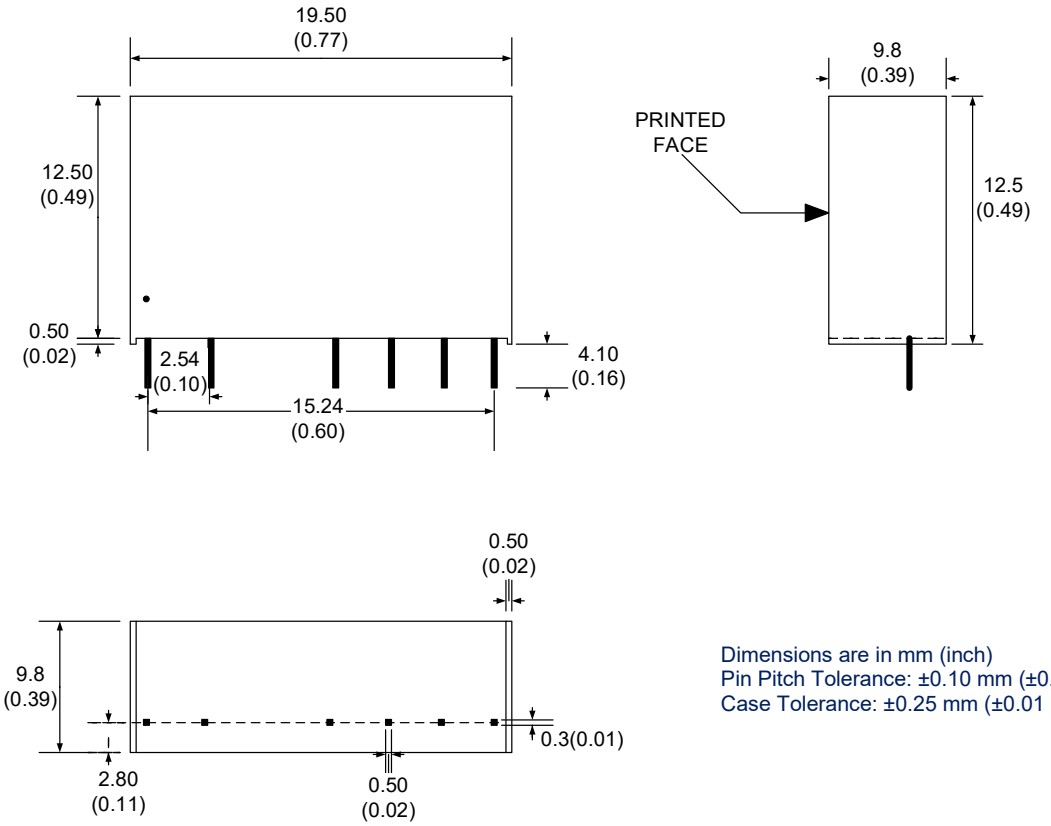
Safety Specifications

Parameters	
Standards	Designed to meet UL60601-1
	EN55022 Class B (see recommended circuit)
	IEC61000-4-2, Perf. Criteria B (ESD Contact +/- 8KV)

Pin Out Specifications

Pin	Single	Dual
1	+ V Input	+ V Input
2	- V Input	- V Input
5	- V Output	- V Output
6	No pin	Common
7	+ V Output	+ V Output

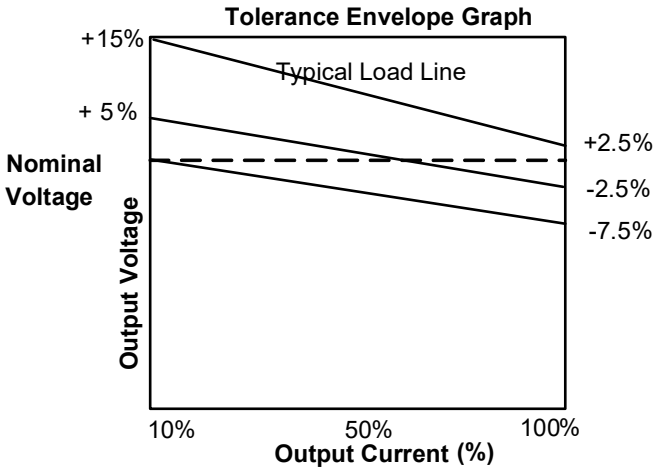
Dimensions



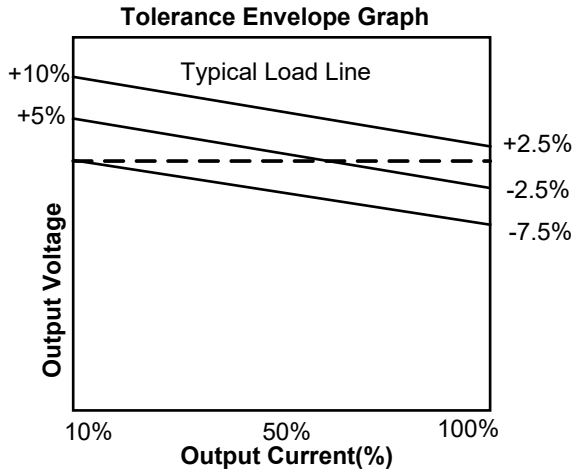
Dimensions are in mm (inch)
Pin Pitch Tolerance: ±0.10 mm (±0.004 inch)
Case Tolerance: ±0.25 mm (±0.01 inch)

Typical Characteristics

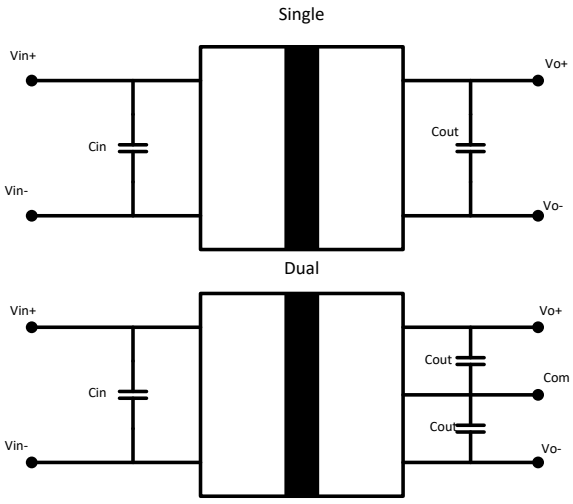
5V output models



Others



Typical application circuit



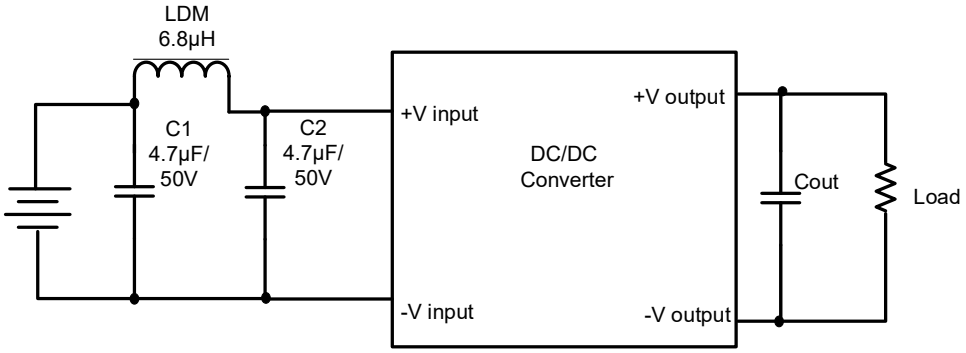
External capacitor – Single output

Vin (VDC)	Cin (µF)	Vout (VDC)	Cout (µF)
5	10	5	10
12 / 15	4.7	12	2.2
24	2.2	15	1

External capacitor – Dual output

Vin (VDC)	Cin (µF)	Vout (VDC)	Cout (µF)
5	10	±5	4.7
12	4.7	±9	2.2
24	2.2	±12/±15	1

EMI Recommended Circuit (Class B)



NOTE: Cout value is the same as referenced in the Application Circuit. For 24V input voltage models the recommended LDM value is 15µH.

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