



Your Power Partner

Series AM2D-Z

2 Watt | DC-DC Converter



FEATURES:

- RoHS Compliant
- Low ripple and noise
- High efficiency up to 82%
- 7 pin SIP package
- Operating temperature -40°C to +85°C
With derating above +75C (see chart)
- Pin compatible with multiple manufacturers
- Input / Output Isolation 1000, 3000, 4000 and 5200VDC



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-0503SZ	4.5-5.5	3.3	400	1000	72
AM2D-0505SZ	4.5-5.5	5	400	1000	78
AM2D-0507SZ	4.5-5.5	7.2	278	1000	80
AM2D-0509SZ	4.5-5.5	9	222	1000	80
AM2D-0512SZ	4.5-5.5	12	167	1000	82
AM2D-0515SZ	4.5-5.5	15	134	1000	82
AM2D-0518SZ	4.5-5.5	18	111	1000	82
AM2D-0524SZ	4.5-5.5	24	83	1000	82
AM2D-1203SZ	10.8-13.2	3.3	400	1000	65
AM2D-1205SZ	10.8-13.2	5	400	1000	77
AM2D-1207SZ	10.8-13.2	7.2	278	1000	80
AM2D-1209SZ	10.8-13.2	9	222	1000	80
AM2D-1212SZ	10.8-13.2	12	167	1000	82
AM2D-1215SZ	10.8-13.2	15	134	1000	82
AM2D-1218SZ	10.8-13.2	18	111	1000	80
AM2D-1224SZ	10.8-13.2	24	83	1000	80
AM2D-2403SZ	21.6-26.4	3.3	400	1000	72
AM2D-2405SZ	21.6-26.4	5	400	1000	79
AM2D-2407SZ	21.6-26.4	7.2	278	1000	80
AM2D-2409SZ	21.6-26.4	9	222	1000	80
AM2D-2412SZ	21.6-26.4	12	167	1000	80
AM2D-2415SZ	21.6-26.4	15	134	1000	82
AM2D-2418SZ	21.6-26.4	18	111	1000	82
AM2D-2424SZ	21.6-26.4	24	83	1000	82
AM2D-0503SH30Z	4.5-5.5	3.3	400	3000	72
AM2D-0505SH30Z	4.5-5.5	5	400	3000	78
AM2D-0507SH30Z	4.5-5.5	7.2	278	3000	80
AM2D-0509SH30Z	4.5-5.5	9	222	3000	80
AM2D-0512SH30Z	4.5-5.5	12	167	3000	82
AM2D-0515SH30Z	4.5-5.5	15	134	3000	82
AM2D-0518SH30Z	4.5-5.5	18	111	3000	82
AM2D-0524SH30Z	4.5-5.5	24	83	3000	82
AM2D-1203SH30Z	10.8-13.2	3.3	400	3000	65
AM2D-1205SH30Z	10.8-13.2	5	400	3000	77
AM2D-1207SH30Z	10.8-13.2	7.2	278	3000	80
AM2D-1209SH30Z	10.8-13.2	9	222	3000	80
AM2D-1212SH30Z	10.8-13.2	12	167	3000	82
AM2D-1215SH30Z	10.8-13.2	15	134	3000	82
AM2D-1218SH30Z	10.8-13.2	18	111	3000	80
AM2D-1224SH30Z	10.8-13.2	24	83	3000	80
AM2D-2403SH30Z	21.6-26.4	3.3	400	3000	72
AM2D-2405SH30Z	21.6-26.4	5	400	3000	79
AM2D-2407SH30Z	21.6-26.4	7.2	278	3000	80
AM2D-2409SH30Z	21.6-26.4	9	222	3000	80
AM2D-2412SH30Z	21.6-26.4	12	167	3000	80

Models

Single output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-2415SH30Z	21.6-26.4	15	134	3000	82
AM2D-2418SH30Z	21.6-26.4	18	111	3000	82
AM2D-2424SH30Z	21.6-26.4	24	83	3000	80
AM2D-0503SH40Z	4.5-5.5	3.3	400	4000	72
AM2D-0505SH40Z	4.5-5.5	5	400	4000	78
AM2D-0507SH40Z	4.5-5.5	7.2	278	4000	80
AM2D-0509SH40Z	4.5-5.5	9	222	4000	80
AM2D-0512SH40Z	4.5-5.5	12	167	4000	82
AM2D-0515SH40Z	4.5-5.5	15	134	4000	82
AM2D-0518SH40Z	4.5-5.5	18	111	4000	82
AM2D-0524SH40Z	4.5-5.5	24	83	4000	82
AM2D-1203SH40Z	10.8-13.2	3.3	400	4000	65
AM2D-1205SH40Z	10.8-13.2	5	400	4000	77
AM2D-1207SH40Z	10.8-13.2	7.2	278	4000	80
AM2D-1209SH40Z	10.8-13.2	9	222	4000	80
AM2D-1212SH40Z	10.8-13.2	12	167	4000	82
AM2D-1215SH40Z	10.8-13.2	15	134	4000	82
AM2D-1218SH40Z	10.8-13.2	18	111	4000	80
AM2D-1224SH40Z	10.8-13.2	24	83	4000	80
AM2D-2403SH40Z	21.6-26.4	3.3	400	4000	72
AM2D-2405SH40Z	21.6-26.4	5	400	4000	79
AM2D-2407SH40Z	21.6-26.4	7.2	278	4000	80
AM2D-2409SH40Z	21.6-26.4	9	222	4000	80
AM2D-2412SH40Z	21.6-26.4	12	167	4000	80
AM2D-2415SH40Z	21.6-26.4	15	134	4000	82
AM2D-2418SH40Z	21.6-26.4	18	111	4000	82
AM2D-2424SH40Z	21.6-26.4	24	83	4000	80
AM2D-0503SH52Z	4.5-5.5	3.3	400	5200	72
AM2D-0505SH52Z	4.5-5.5	5	400	5200	78
AM2D-0507SH52Z	4.5-5.5	7.2	278	5200	80
AM2D-0509SH52Z	4.5-5.5	9	222	5200	80
AM2D-0512SH52Z	4.5-5.5	12	167	5200	82
AM2D-0515SH52Z	4.5-5.5	15	134	5200	82
AM2D-0518SH52Z	4.5-5.5	18	111	5200	82
AM2D-0524SH52Z	4.5-5.5	24	83	5200	82
AM2D-1203SH52Z	10.8-13.2	3.3	400	5200	65
AM2D-1205SH52Z	10.8-13.2	5	400	5200	77
AM2D-1207SH52Z	10.8-13.2	7.2	278	5200	80
AM2D-1209SH52Z	10.8-13.2	9	222	5200	80
AM2D-1212SH52Z	10.8-13.2	12	167	5200	82
AM2D-1215SH52Z	10.8-13.2	15	134	5200	82
AM2D-1218SH52Z	10.8-13.2	18	111	5200	80
AM2D-1224SH52Z	10.8-13.2	24	83	5200	80
AM2D-2403SH52Z	21.6-26.4	3.3	400	5200	72
AM2D-2405SH52Z	21.6-26.4	5	400	5200	79
AM2D-2407SH52Z	21.6-26.4	7.2	278	5200	80
AM2D-2409SH52Z	21.6-26.4	9	222	5200	80
AM2D-2412SH52Z	21.6-26.4	12	167	5200	80
AM2D-2415SH52Z	21.6-26.4	15	134	5200	82
AM2D-2418SH52Z	21.6-26.4	18	111	5200	82
AM2D-2424SH52Z	21.6-26.4	24	83	5200	80

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-0503DZ	4.5-5.5	±3.3	±200	1000	65
AM2D-0505DZ	4.5-5.5	±5	±200	1000	72
AM2D-0507DZ	4.5-5.5	±7.2	±139	1000	72
AM2D-0509DZ	4.5-5.5	±9	±111	1000	77
AM2D-0512DZ	4.5-5.5	±12	±83	1000	78
AM2D-0515DZ	4.5-5.5	±15	±67	1000	80
AM2D-0518DZ	4.5-5.5	±18	±55	1000	80
AM2D-0524DZ	4.5-5.5	±24	±42	1000	80
AM2D-1203DZ	10.8-13.2	±3.3	±200	1000	67
AM2D-1205DZ	10.8-13.2	±5	±200	1000	75
AM2D-1207DZ	10.8-13.2	±7.2	±139	1000	76
AM2D-1209DZ	10.8-13.2	±9	±111	1000	77
AM2D-1212DZ	10.8-13.2	±12	±83	1000	82
AM2D-1215DZ	10.8-13.2	±15	±67	1000	82
AM2D-1218DZ	10.8-13.2	±18	±55	1000	82
AM2D-1224DZ	10.8-13.2	±24	±42	1000	82
AM2D-2403DZ	21.6-26.4	±3.3	±200	1000	68
AM2D-2405DZ	21.6-26.4	±5	±200	1000	75
AM2D-2407DZ	21.6-26.4	±7.2	±139	1000	75
AM2D-2409DZ	21.6-26.4	±9	±111	1000	80
AM2D-2412DZ	21.6-26.4	±12	±83	1000	82
AM2D-2415DZ	21.6-26.4	±15	±67	1000	82
AM2D-2418DZ	21.6-26.4	±18	±55	1000	82
AM2D-2424DZ	21.6-26.4	±24	±42	1000	82
AM2D-0503DH30Z	4.5-5.5	±3.3	±200	3000	65
AM2D-0505DH30Z	4.5-5.5	±5	±200	3000	72
AM2D-0507DH30Z	4.5-5.5	±7.2	±139	3000	72
AM2D-0509DH30Z	4.5-5.5	±9	±111	3000	77
AM2D-0512DH30Z	4.5-5.5	±12	±83	3000	78
AM2D-0515DH30Z	4.5-5.5	±15	±67	3000	80
AM2D-0518DH30Z	4.5-5.5	±18	±55	3000	80
AM2D-0524DH30Z	4.5-5.5	±24	±42	3000	80
AM2D-1203DH30Z	10.8-13.2	±3.3	±200	3000	67
AM2D-1205DH30Z	10.8-13.2	±5	±200	3000	75
AM2D-1207DH30Z	10.8-13.2	±7.2	±139	3000	76
AM2D-1209DH30Z	10.8-13.2	±9	±111	3000	77
AM2D-1212DH30Z	10.8-13.2	±12	±83	3000	82
AM2D-1215DH30Z	10.8-13.2	±15	±67	3000	82
AM2D-1218DH30Z	10.8-13.2	±18	±55	3000	82
AM2D-1224DH30Z	10.8-13.2	±24	±42	3000	82
AM2D-2403DH30Z	21.6-26.4	±3.3	±200	3000	68
AM2D-2405DH30Z	21.6-26.4	±5	±200	3000	75
AM2D-2407DH30Z	21.6-26.4	±7.2	±139	3000	75
AM2D-2409DH30Z	21.6-26.4	±9	±111	3000	80
AM2D-2412DH30Z	21.6-26.4	±12	±83	3000	82
AM2D-2415DH30Z	21.6-26.4	±15	±67	3000	82
AM2D-2418DH30Z	21.6-26.4	±18	±55	3000	82
AM2D-2424DH30Z	21.6-26.4	±24	±42	3000	82

Models

Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-0503DH40Z	4.5-5.5	±3.3	±200	4000	65
AM2D-0505DH40Z	4.5-5.5	±5	±200	4000	72
AM2D-0507DH40Z	4.5-5.5	±7.2	±139	4000	72
AM2D-0509DH40Z	4.5-5.5	±9	±111	4000	77
AM2D-0512DH40Z	4.5-5.5	±12	±83	4000	78
AM2D-0515DH40Z	4.5-5.5	±15	±67	4000	80
AM2D-0518DH40Z	4.5-5.5	±18	±55	4000	80
AM2D-0524DH40Z	4.5-5.5	±24	±42	4000	80
AM2D-1203DH40Z	10.8-13.2	±3.3	±200	4000	67
AM2D-1205DH40Z	10.8-13.2	±5	±200	4000	75
AM2D-1207DH40Z	10.8-13.2	±7.2	±139	4000	76
AM2D-1209DH40Z	10.8-13.2	±9	±111	4000	77
AM2D-1212DH40Z	10.8-13.2	±12	±83	4000	82
AM2D-1215DH40Z	10.8-13.2	±15	±67	4000	82
AM2D-1218DH40Z	10.8-13.2	±18	±55	4000	82
AM2D-1224DH40Z	10.8-13.2	±24	±42	4000	82
AM2D-2403DH40Z	21.6-26.4	±3.3	±200	4000	68
AM2D-2405DH40Z	21.6-26.4	±5	±200	4000	75
AM2D-2407DH40Z	21.6-26.4	±7.2	±139	4000	75
AM2D-2409DH40Z	21.6-26.4	±9	±111	4000	80
AM2D-2412DH40Z	21.6-26.4	±12	±83	4000	82
AM2D-2415DH40Z	21.6-26.4	±15	±67	4000	82
AM2D-2418DH40Z	21.6-26.4	±18	±55	4000	82
AM2D-2424DH40Z	21.6-26.4	±24	±42	4000	82
AM2D-0503DH52Z	4.5-5.5	±3.3	±200	5200	65
AM2D-0505DH52Z	4.5-5.5	±5	±200	5200	72
AM2D-0507DH52Z	4.5-5.5	±7.2	±139	5200	72
AM2D-0509DH52Z	4.5-5.5	±9	±111	5200	77
AM2D-0512DH52Z	4.5-5.5	±12	±83	5200	78
AM2D-0515DH52Z	4.5-5.5	±15	±67	5200	80
AM2D-0518DH52Z	4.5-5.5	±18	±55	5200	80
AM2D-0524DH52Z	4.5-5.5	±24	±42	5200	80
AM2D-1203DH52Z	10.8-13.2	±3.3	±200	5200	67
AM2D-1205DH52Z	10.8-13.2	±5	±200	5200	75
AM2D-1207DH52Z	10.8-13.2	±7.2	±139	5200	76
AM2D-1209DH52Z	10.8-13.2	±9	±111	5200	77
AM2D-1212DH52Z	10.8-13.2	±12	±83	5200	82
AM2D-1215DH52Z	10.8-13.2	±15	±67	5200	82
AM2D-1218DH52Z	10.8-13.2	±18	±55	5200	82
AM2D-1224DH52Z	10.8-13.2	±24	±42	5200	82
AM2D-2403DH52Z	21.6-26.4	±3.3	±200	5200	68
AM2D-2405DH52Z	21.6-26.4	±5	±200	5200	75
AM2D-2407DH52Z	21.6-26.4	±7.2	±139	5200	75
AM2D-2409DH52Z	21.6-26.4	±9	±111	5200	80
AM2D-2412DH52Z	21.6-26.4	±12	±83	5200	82
AM2D-2415DH52Z	21.6-26.4	±15	±67	5200	82
AM2D-2418DH52Z	21.6-26.4	±18	±55	5200	82
AM2D-2424DH52Z	21.6-26.4	±24	±42	5200	82

Models

Dual separated output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-050303DZ	4.5-5.5	3.3 / 3.3	200 / 200	1000	73
AM2D-050505DZ	4.5-5.5	5 / 5	200 / 200	1000	78

Models

Dual separated output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2D-050707DZ	4.5-5.5	7.2 / 7.2	139 / 139	1000	75
AM2D-050909DZ	4.5-5.5	9 / 9	111 / 111	1000	78
AM2D-051212DZ	4.5-5.5	12 / 12	83 / 83	1000	82
AM2D-051515DZ	4.5-5.5	15 / 15	67 / 67	1000	82
AM2D-051818DZ	4.5-5.5	18 / 18	55 / 55	1000	79
AM2D-052424DZ	4.5-5.5	24 / 24	42 / 42	1000	75
AM2D-120303DZ	10.8-13.2	3.3 / 3.3	200 / 200	1000	73
AM2D-120505DZ	10.8-13.2	5 / 5	200 / 200	1000	78
AM2D-120707DZ	10.8-13.2	7.2 / 7.2	139 / 139	1000	75
AM2D-120909DZ	10.8-13.2	9 / 9	111 / 111	1000	78
AM2D-121212DZ	10.8-13.2	12 / 12	83 / 83	1000	82
AM2D-121515DZ	10.8-13.2	15 / 15	67 / 67	1000	82
AM2D-121818DZ	10.8-13.2	18 / 18	55 / 55	1000	78
AM2D-122424DZ	10.8-13.2	24 / 24	42 / 42	1000	75
AM2D-240303DZ	21.6-26.4	3.3 / 3.3	200 / 200	1000	73
AM2D-240505DZ	21.6-26.4	5 / 5	200 / 200	1000	78
AM2D-240707DZ	21.6-26.4	7.2 / 7.2	139 / 139	1000	75
AM2D-240909DZ	21.6-26.4	9 / 9	111 / 111	1000	78
AM2D-241212DZ	21.6-26.4	12 / 12	83 / 83	1000	82
AM2D-241515DZ	21.6-26.4	15 / 15	67 / 67	1000	82
AM2D-241818DZ	21.6-26.4	18 / 18	55 / 55	1000	75
AM2D-242424DZ	21.6-26.4	24 / 24	42 / 42	1000	75

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	24	21.6-26.4		
Filter	Capacitor			
Turn on Transient process time			25	ms
Start up time		200		ms
Absolute Maximum Rating	5 Vin	0-7		VDC
	12 Vin	0-15		
	24 Vin	0-28		
Peak Input Voltage time		100		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1000, 3000, 4000 and 5200	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±3		%
Voltage balance	Dual output	±1		%
Short Circuit protection		Momentary (1sec).		
Line voltage regulation (Single)	For 1.0% of Vin	±1.2		%
Line voltage regulation (Dual)	For 1.0% of Vin	±1.2		%
Load voltage regulation (Single)	Load 20~100%	±10		%
Load voltage regulation (Single) 3.3V output model	Load 20~100%	±20		%

Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Load voltage regulation (Dual)	Load 20~100%	±10		%
Load voltage regulation (Dual) 3.3V output model	Load 20~100%	±20		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	75		mV p-p
Capacitive load	Single output		470	µF
	Dual output		220	µF
Rising time		100		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	85		KHz
Operating temperature			-40 to +75	°C
Storage temperature			-55 to +125	°C
Max Case temperature			+95	°C
Cooling		Free air convection		
Humidity			90	%
Case material		Plastic UL94-VO		
Weight		2.5		g
Dimensions (L x W x H)		0.76 x 0.24 x 0.37 inch	19.50 x 6.00 x 9.50 mm	
MTBF		>688 000 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

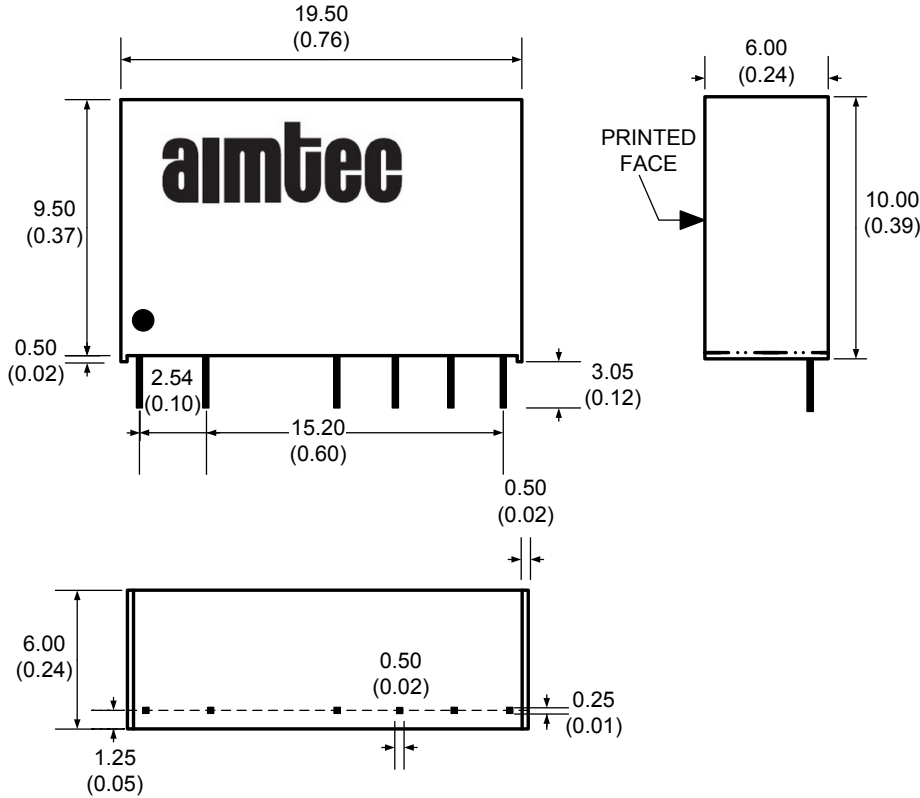
Safety Specifications

Parameters	
Agency approvals	CE (Except dual separated models)
Standards	EN55022 (Radiated Emissions) class B
	EN55024 (Noise Immunity), IEC61000-4-2(ESD)
	IEC61000-4-3 (Radiated immunity)

Pin Out Specifications

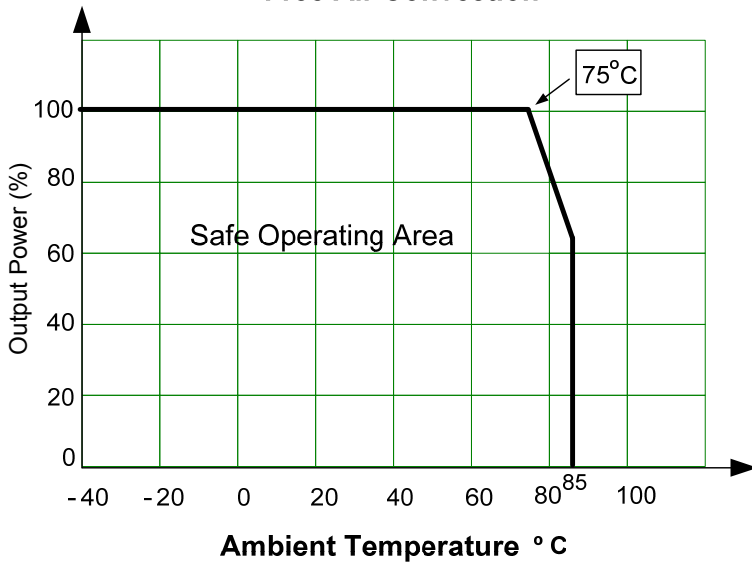
Pin	1000 VDC			3000, 4000 , 5200 VDC	
	Single	Dual	Dual separated	Single	Dual
1	+ V Input	+ V Input	+ V Input	+ V Input	+ V Input
2	- V Input	- V Input	- V Input	- V Input	- V Input
4	- V Output	- V Output	+V1 Output	No pin	No pin
5	No pin	Common	-V1 Output	-V Output	-V Output
6	+ V Output	+ V Output	+V2 Output	No pin	Common
7	No pin	No pin	-V2 Output	+V Output	+V Output

Dimensions



Derating

Free Air Convection



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