aimtec
Your Power Partner

Series AM3D-Z

3 Watt | DC-DC Converter

FEATURES:

- 7 Pin SIP Package
- High Efficiency up to 90%
- Low Profile Plastic Package
- RoHS Compliant
- Operating Temperature -40ºC to +85ºC
- Short Circuit Protection
- Input / Output Isolation 1000, 3000 VDC
- Pin Compatible With Multiple Manufacturers

RoHS CE

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Isolation (VDC)	Input Current Full | No Load (mA)		Efficiency (%)
AM3D-0505SZ	4.5-5.5	5	600	1000	769	80	78
AM3D-0509SZ	4.5-5.5	9	333	1000	714	70	84
AM3D-0512SZ	4.5-5.5	12	250	1000	714	80	84
AM3D-0515SZ	4.5-5.5	15	200	1000	714	80	84
AM3D-1205SZ	10.8-13.2	5	600	1000	298	25	84
AM3D-1209SZ	10.8-13.2	9	333	1000	287	25	87
AM3D-1212SZ	10.8-13.2	12	250	1000	284	25	88
AM3D-1215SZ	10.8-13.2	15	200	1000	278	20	90
AM3D-0505SH30Z	4.5-5.5	5	600	3000	769	80	78
AM3D-0509SH30Z	4.5-5.5	9	333	3000	714	70	84
AM3D-0512SH30Z	4.5-5.5	12	250	3000	714	80	84
AM3D-0515SH30Z	4.5-5.5	15	200	3000	714	80	84
AM3D-1205SH30Z	10.8-13.2	5	600	3000	298	25	84
AM3D-1209SH30Z	10.8-13.2	9	333	3000	287	25	87
AM3D-1212SH30Z	10.8-13.2	12	250	3000	284	25	88
AM3D-1215SH30Z	10.8-13.2	15	200	3000	278	20	90

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Isolation (VDC)	Input Current Full | No Load (mA)		Efficiency (%)
AM3D-0505DZ	4.5-5.5	±5	±300	1000	741	80	81
AM3D-0509DZ	4.5-5.5	±9	±167	1000	706	70	85
AM3D-0512DZ	4.5-5.5	±12	±125	1000	706	70	85
AM3D-0515DZ	4.5-5.5	±15	±100	1000	714	80	84
AM3D-1205DZ	10.8-13.2	±5	±300	1000	294	25	85
AM3D-1209DZ	10.8-13.2	±9	±167	1000	284	25	88
AM3D-1212DZ	10.8-13.2	±12	±125	1000	281	25	89
AM3D-1215DZ	10.8-13.2	±15	±100	1000	278	20	90
AM3D-0505DH30Z	4.5-5.5	±5	±300	3000	741	80	81
AM3D-0509DH30Z	4.5-5.5	±9	±167	3000	706	70	85
AM3D-0512DH30Z	4.5-5.5	±12	±125	3000	706	70	85
AM3D-0515DH30Z	4.5-5.5	±15	±100	3000	714	80	84
AM3D-1205DH30Z	10.8-13.2	±5	±300	3000	294	25	85
AM3D-1209DH30Z	10.8-13.2	±9	±167	3000	284	25	88
AM3D-1212DH30Z	10.8-13.2	±12	±125	3000	281	25	89
AM3D-1215DH30Z	10.8-13.2	±15	±100	3000	278	20	90

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.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage Range	5	4.5-5.5		VDC
	12	10.8-13.2		VDC
Filter	Capacitor			
Absolute Maximum Rating	5	9		VDC
	12	18		VDC
Peak Input Voltage Time			100	ms
Input Reflected Ripple Current		25		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O Voltage	60 sec	1000, 3000		VDC
Resistance		>1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage Accuracy		-4 to +2		%
Line Voltage Regulation	For 1.0% of Vin	±1.2		% of Vin
Load Voltage Regulation	load 10~100%, 5Vin/5Vout models	8		%
	load 10~100%, other models	7		%
Temperature Coefficient		±0.02		%/°C
Ripple & Noise *	20MHz Bandwidth	50		mV p-p
Minimum Load Current		10		% of Max

* Measured with a 1µF CC.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency	100% load	70		KHz
Operating Temperature	With Derating Above 71 °C (5V input models only)	-40 to +85		°C
Storage Temperature		-40 to +125		°C
Maximum Case Temperature			100	°C
Cooling	Free Air Convection			
Humidity			95	% RH
Case Material	Non-conductive black plastic UL 94 V-0			
Weight		2.8		g
Dimensions (L x W x H)	0.76 x 0.28 x 0.37 inches 19.50 x 7.20 x 9.50 mm			
MTBF	>1 800 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Maximum Soldering Temperature	1.5mm from case for 10 sec		260	°C

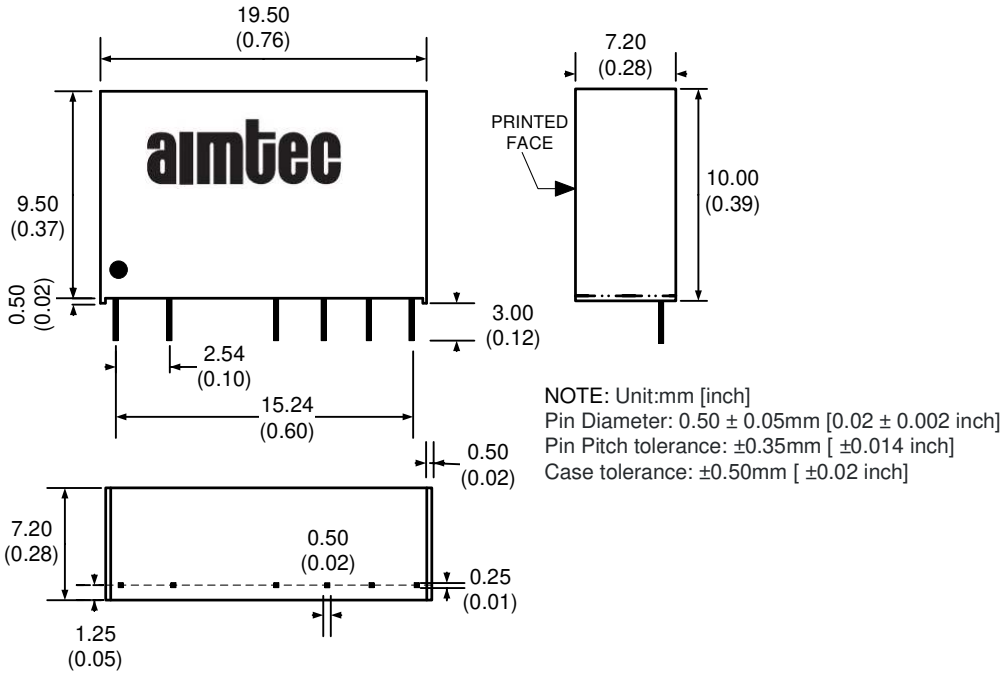
Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55032, Class B with the recommended circuit
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

Pin Out Specifications

Pin	1000Vdc		3000Vdc	
	Single	Dual	Single	Dual
1	+ V Input	+ V Input	+ V Input	+ V Input
2	- V Input	- V Input	- V Input	- V Input
4	- V Output	- V Output	No pin	No pin
5	No pin	Common	- V Output	- V Output
6	+ V Output	+ V Output	No pin	Common
7	No pin	No pin	+ V Output	+ V Output

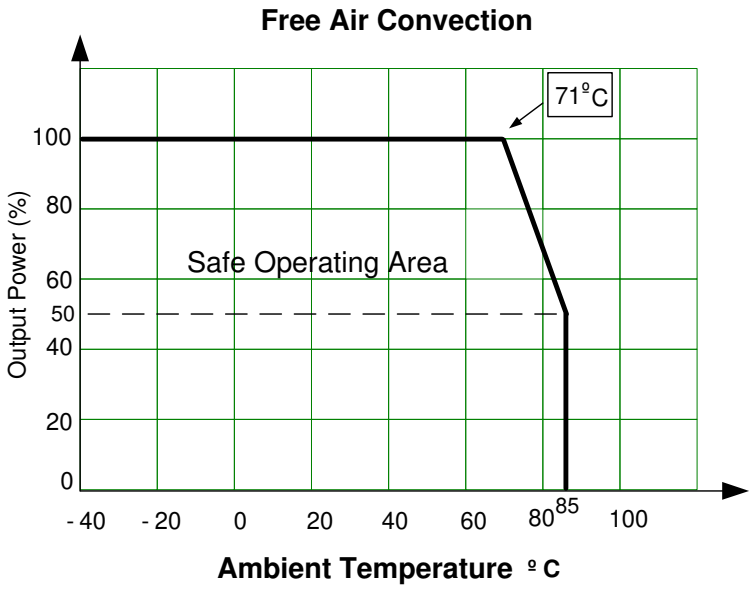
Dimensions



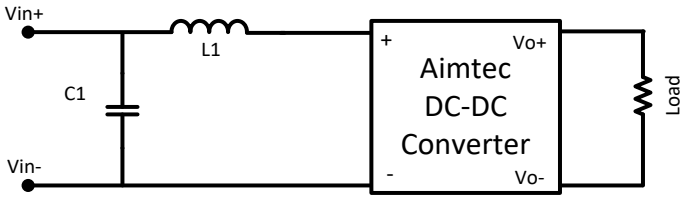
NOTE: Unit:mm [inch]
Pin Diameter: 0.50 ± 0.05mm [0.02 ± 0.002 inch]
Pin Pitch tolerance: ±0.35mm [±0.014 inch]
Case tolerance: ±0.50mm [±0.02 inch]

Derating

5V input models only

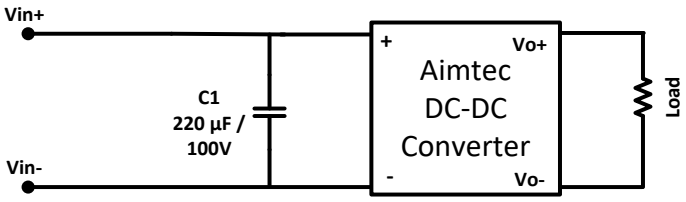


Conducted Emissions

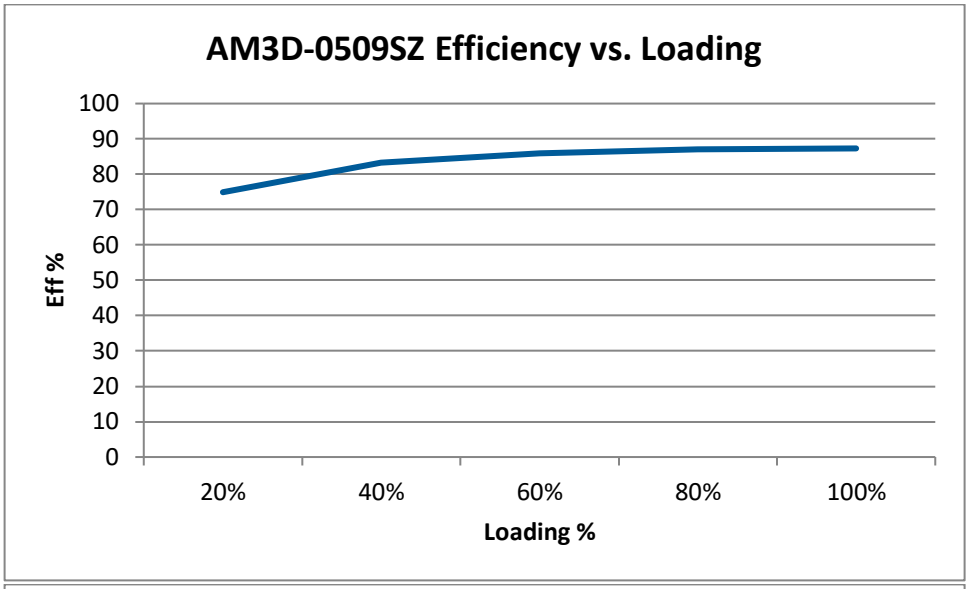


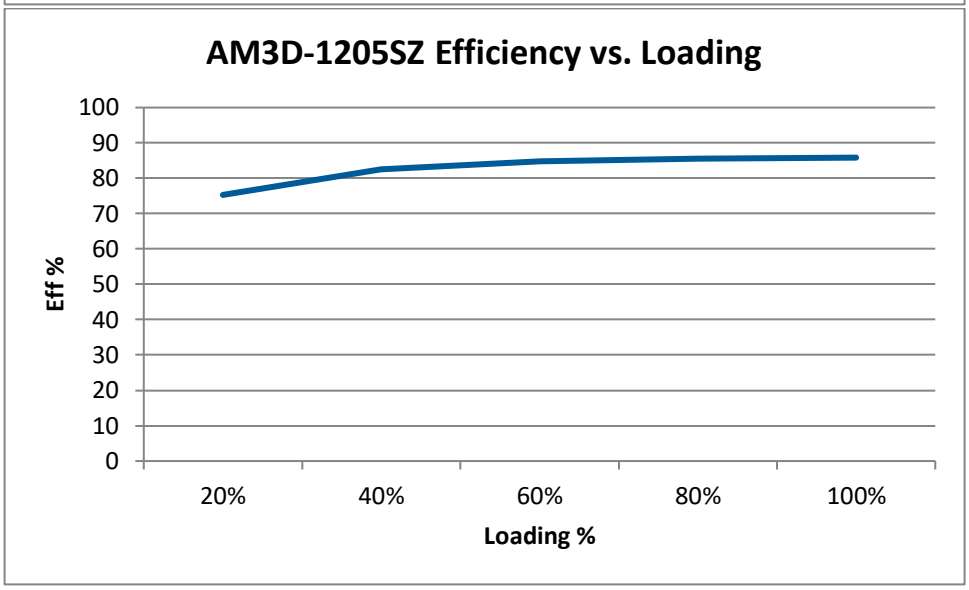
Model	C1	L1
5 Vin	1210 2.2µF / 100V	18 µH
12 Vin	1210 2.2µF / 100V	18 µH

EFT



Typical Efficiency Example Charts


AM3D-0509SZ Efficiency vs. Loading
Eff %
100
90
80
70
60
50
40
30
20
10
0
20%
40%
60%
80%
100%
Loading %


AM3D-1205SZ Efficiency vs. Loading
Eff %
100
90
80
70
60
50
40
30
20
10
0
20%
40%
60%
80%
100%
Loading %

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