

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 -40°C to +85°C
- Short Circuit Protection
- Input / Output Isolation 1000, 3000 VDC
- Pin Compatible With Multiple Manufacturers

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	80
AM3D-0509SZ	4.5-5.5	9	333	1000	714	70	81
AM3D-0512SZ	4.5-5.5	12	250	1000	714	80	82
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	86
AM3D-1212SZ	10.8-13.2	12	250	1000	284	25	89
AM3D-1215SZ	10.8-13.2	15	200	1000	278	20	90
AM3D-0505SH30Z	4.5-5.5	5	600	3000	769	80	80
AM3D-0509SH30Z	4.5-5.5	9	333	3000	714	70	81
AM3D-0512SH30Z	4.5-5.5	12	250	3000	714	80	82
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	86
AM3D-1212SH30Z	10.8-13.2	12	250	3000	284	25	89
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	82
AM3D-0509DZ	4.5-5.5	±9	±167	1000	706	70	83
AM3D-0512DZ	4.5-5.5	±12	±125	1000	706	70	84
AM3D-0515DZ	4.5-5.5	±15	±100	1000	714	80	86
AM3D-1205DZ	10.8-13.2	±5	±300	1000	294	25	85
AM3D-1209DZ	10.8-13.2	±9	±167	1000	284	25	86
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	82
AM3D-0509DH30Z	4.5-5.5	±9	±167	3000	706	70	83
AM3D-0512DH30Z	4.5-5.5	±12	±125	3000	706	70	84
AM3D-0515DH30Z	4.5-5.5	±15	±100	3000	714	80	86
AM3D-1205DH30Z	10.8-13.2	±5	±300	3000	294	25	85
AM3D-1209DH30Z	10.8-13.2	±9	±167	3000	284	25	86
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		
Filter	Capacitor			
Start Up Time				ms
Absolute Maximum Rating	5	9		VDC
	12	15		
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		±3		%
Line Voltage Regulation	For 1.0% of Vin	±1.2		% of Vin
Load Voltage Regulation	load 10~100%	±8		%
Temperature Coefficient		±0.02		%/°C
Short Circuit Protection		Momentary (1sec)		
Ripple & Noise	20MHz Bandwidth	50		mV p-p
Minimum Load Current		10		% of Max

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
Derating				%/°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

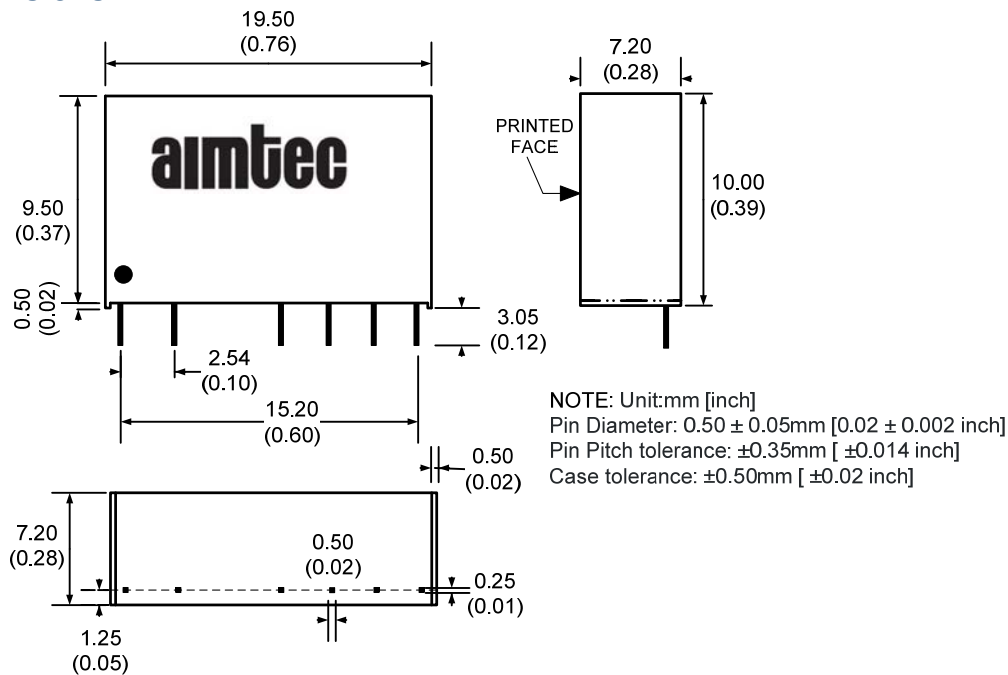
Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55022: 2006 + A1: 2007, Class B
	EN55024: 1998 + A1: 2001 + A2:2003
	IEC61000-4-2:2008
	IEC61000-4-3: 2006 + A1: 2007
	IEC61000-4-4, 2004
	IEC61000-4-6: 2008
	IEC61000-4-8: 1993 + A1:2000

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

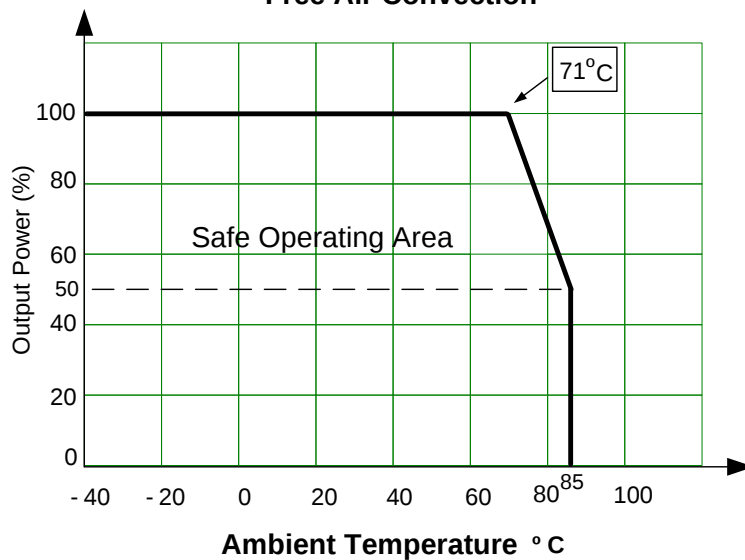
Dimensions



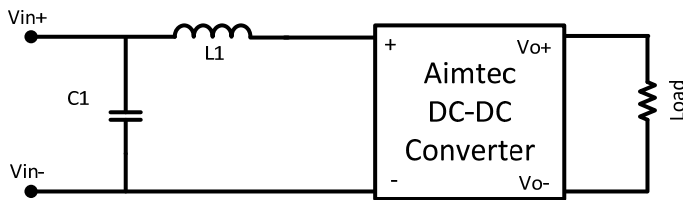
Derating

5V input models only

Free Air Convection

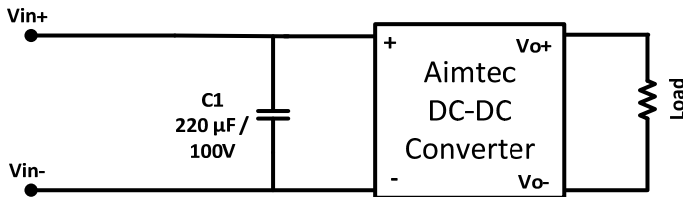


Conducted Emissions

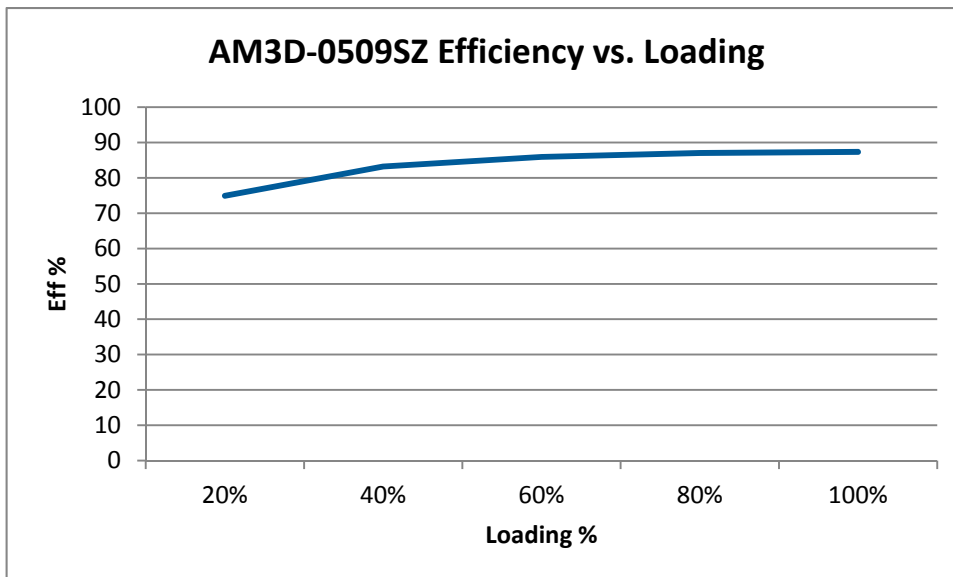


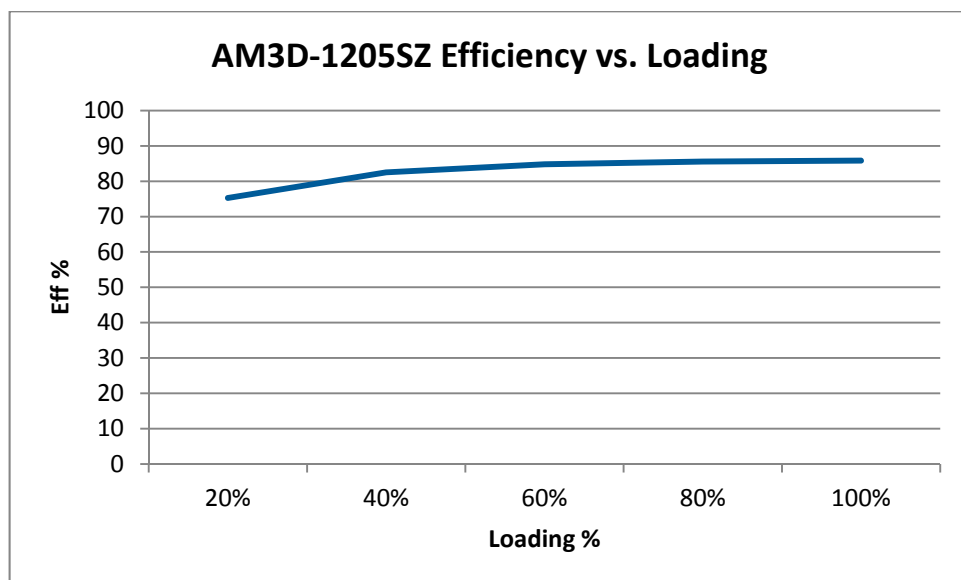
Model	C1	L1
5 Vin	1210 2.2 μ F / 100V	18 μ H
12 Vin	1210 2.2 μ F / 100V	18 μ H

EFT



Typical Efficiency Example Charts





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