Series AM1SS-NZ

1 Watt | DC-DC Converter

FEATURES:

- Unregulated
- 4 Pin SIP Package
- Low ripple and noise
- High efficiency up to 82%
- Operating temperature -40°C to +105°C
- Input / Output isolation 1500 VDC
- Pin compatible with multiple manufacturers
- Continuous Short Circuit Protection ‡

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max. Capacitive Load (µF)	Efficiency (%)
AM1SS-0303S-NZ	2.97-3.63	3.3	303	1500	220	72
AM1SS-0305S-NZ	2.97-3.63	5	200	1500	220	76
AM1SS-0312S-NZ	2.97-3.63	12	84	1500	220	80
AM1SS-0503S-NZ	4.5-5.5	3.3	303	1500	220	72
AM1SS-0505S-NZ	4.5-5.5	5	200	1500	220	80
AM1SS-0509S-NZ	4.5-5.5	9	111	1500	220	80
AM1SS-0512S-NZ	4.5-5.5	12	84	1500	220	81
AM1SS-0515S-NZ	4.5-5.5	15	67	1500	220	81
AM1SS-0524S-NZ ‡	4.5-5.5	24	42	1500	220	81
AM1SS-1203S-NZ	10.8-13.2	3.3	303	1500	220	72
AM1SS-1205S-NZ	10.8-13.2	5	200	1500	220	80
AM1SS-1209S-NZ	10.8-13.2	9	110	1500	220	80
AM1SS-1212S-NZ	10.8-13.2	12	83	1500	220	81
AM1SS-1215S-NZ	10.8-13.2	15	67	1500	220	80
AM1SS-1224S-NZ	10.8-13.2	24	42	1500	220	80
AM1SS-1515S-NZ	13.5-16.5	15	67	1500	220	81
AM1SS-2403S-NZ	21.6-26.4	3.3	303	1500	220	72
AM1SS-2405S-NZ	21.6-26.4	5	200	1500	220	80
AM1SS-2409S-NZ	21.6-26.4	9	110	1500	220	80
AM1SS-2412S-NZ	21.6-26.4	12	83	1500	220	81
AM1SS-2415S-NZ	21.6-26.4	15	67	1500	220	82
AM1SS-2424S-NZ	21.6-26.4	24	42	1500	220	82

‡- Please note Aimtec product change announcement located here www.aimtec.com/news for product specification changes effective February 7th 2015.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	3.3	2.97-3.63		VDC
	5	4.5-5.5		
	12	10.8-13.2		
	15	13.5-16.5		
	24	21.6-26.4		
Absolute Max Rating (1 sec. max.)	3.3 5 12 15 24		5 9 18 21 30	VDC
Filter	Capacitor			

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Resistance		> 1000		MOhm
Capacitance		20		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See tolerance graph	±5		%
Short Circuit protection		Continuous with automatic recovery ‡		
Line voltage regulation	For 1.0% Vin, 3.3V Model For 1.0% Vin, Other Model	±1.5 ±1.2		% of Vin
Load voltage regulation	Load 10 – 100%	12		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	At 20 MHz Bandwidth	60		m Vp-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	100-300		KHz
Operating temperature	Derating Above 85°C	-40 to +105		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			125	°C
Cooling	Free air convection			
Humidity	Non condensing		95	%
Soldering Lead Temperature	1.5mm from Lead, for 10 Sec		300	°C
Case material	Plastic UL94-VO			
Weight		1.2		g
Dimensions (L x H x W)		0.46 x 0.40x 0.24 inches	11.60 x 10.10 x 6.00 mm	
MTBF	>3500K hrs(MIL-HDBK -217F, Ground Benign, t=+25°C)			

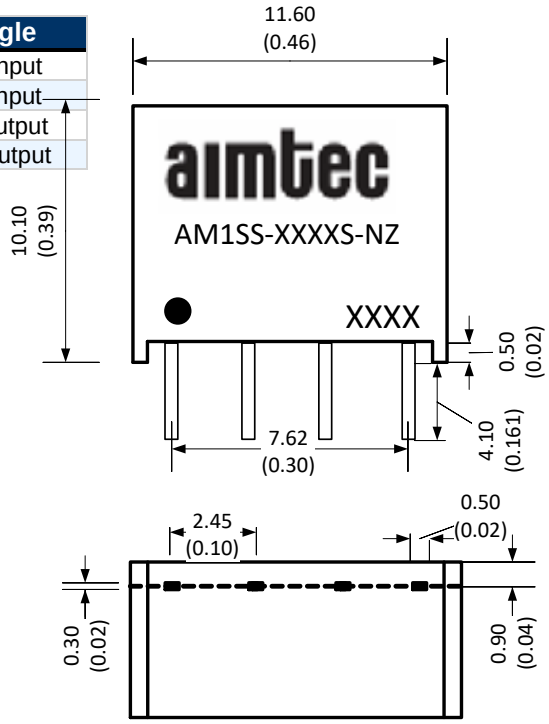
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications

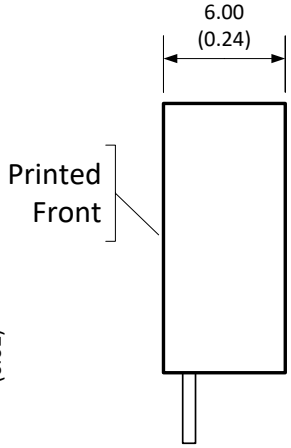
Parameters	
Agency approvals	cULus (without 15V input and without 3.3V output models)
Standards	UL 60950-1

Pin Out Specifications

Pin	Single
1	- V Input
2	+V Input
3	-V Output
4	+V Output

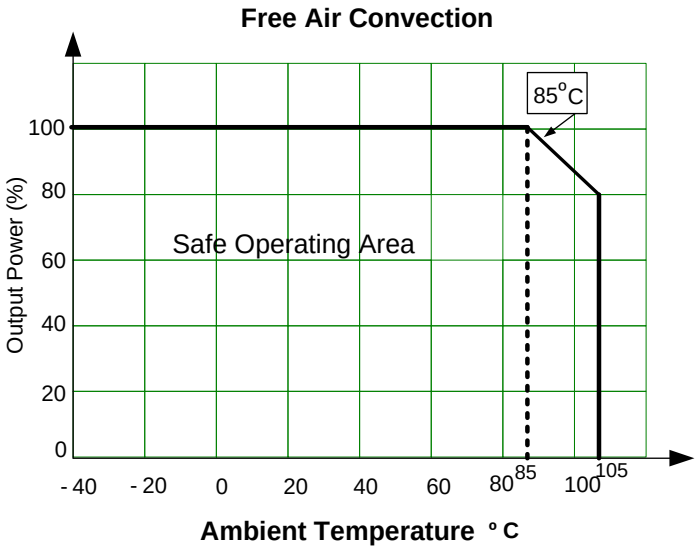


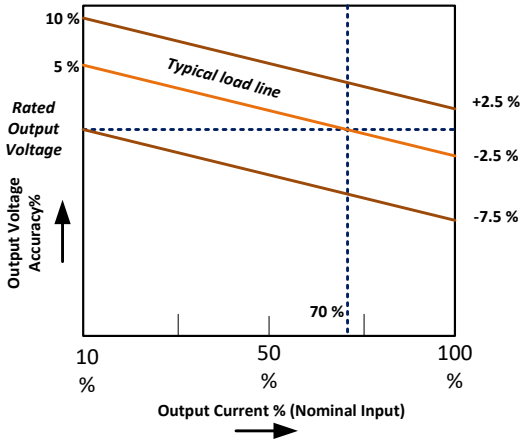
Dimensions



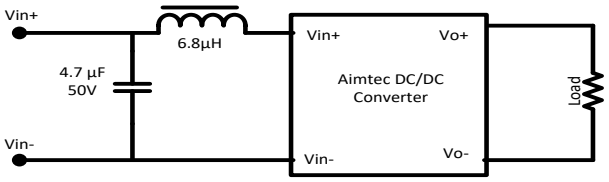
Derating

Typical Characteristics





Recommended Circuit for EMI Class B



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.