

# Series AM1S-NZ

## 1 Watt | DC-DC Converter



### FEATURES:

- RoHS compliant
- 4 Pin SIP Package
- Low ripple and noise
- High efficiency up to 81%
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1000 and 3000VDC
- Pin compatible with multiple manufacturers



### Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM1S-0505S-NZ	4.5-5.5	5	200	1000	78
AM1S-0515S-NZ	4.5-5.5	15	67	1000	78
AM1S-1205S-NZ	10.8-13.2	5	200	1000	78
AM1S-1212S-NZ	10.8-13.2	12	83	1000	81
AM1S-0505SH30-NZ	4.5-5.5	5	200	3000	70

### Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
Filter	Capacitor			

### Isolation Specifications

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

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See tolerance graph			
Short Circuit protection	Momentary (1 sec)			
Line voltage regulation	For 1.0% of Vin	±1.2		%
Load voltage regulation	Load 10 – 100%	10		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	At 20MHz Bandwidth	75		mV p-p

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	150		KHz
Operating temperature	Without derating		-40 to +85	°C
Storage temperature			-55 to +125	°C
Max Case temperature			90	°C
Cooling	Free air convection			
Humidity			90	%
Case material		Plastic UL94-VO		
Weight		1.8		g
Dimensions (L x W x H)		0.46 x 0.24 x 0.37 inches	11.70 x 6.00 x 9.50 mm	
MTBF		>1 000 000 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

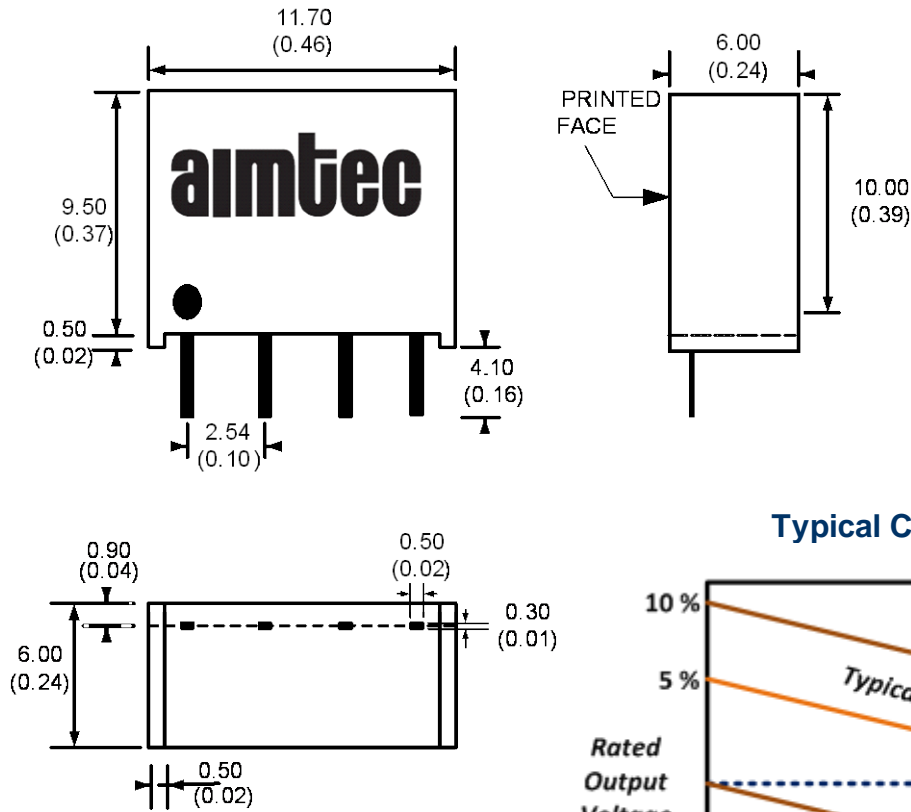
### Parameters

Standards	IEC60950-1 :2001
Agency approvals	UL and CE for 1000VDC models

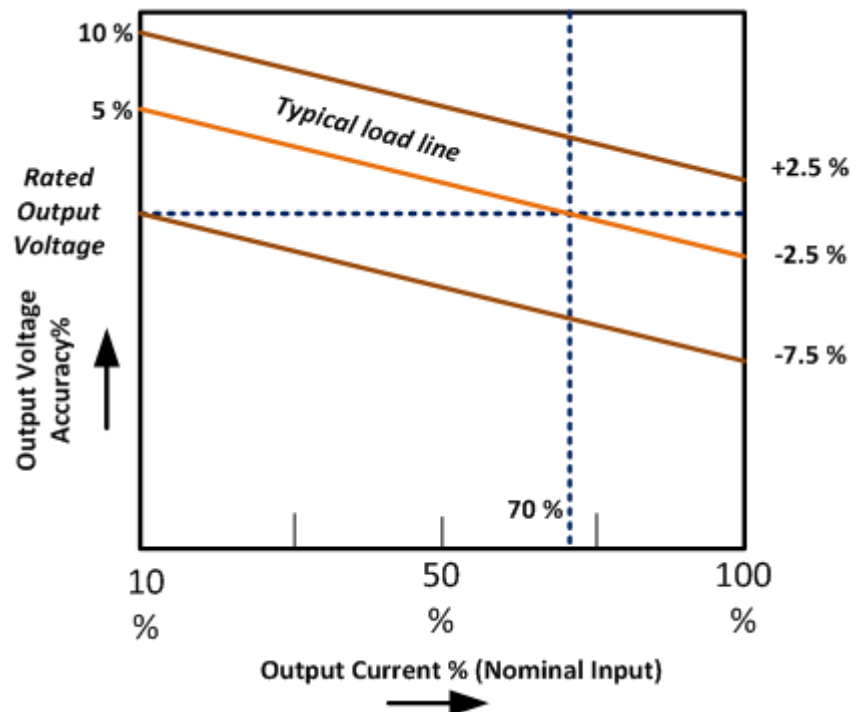
## Pin Out Specifications

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

## Dimensions



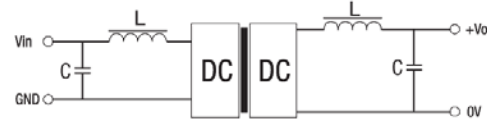
## Typical Characteristics



**External capacitor**

Vin (VDC)	External capacitor (uF)	Vout (VDC)	External capacitor (uF)
5	4.7	5	10
12	2.2	9	4.7
24	1	12	2.2
-		15	1

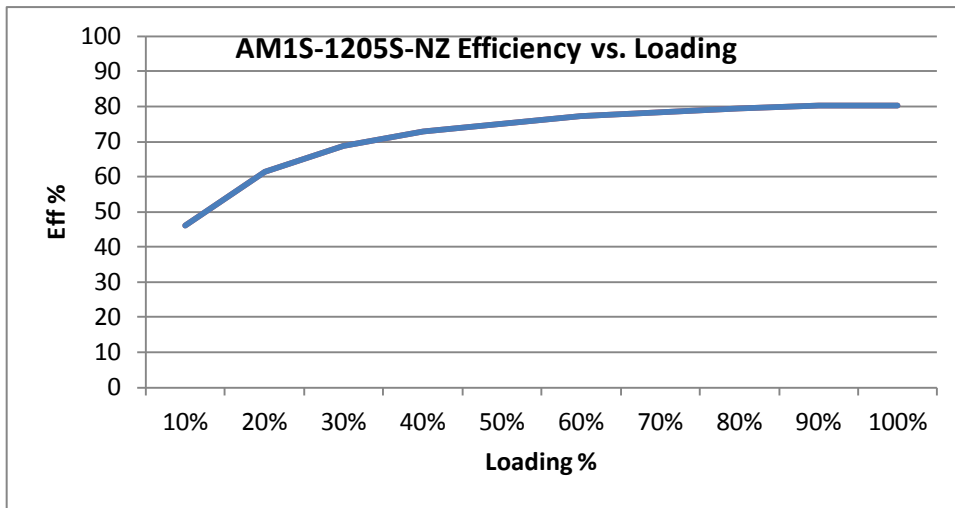
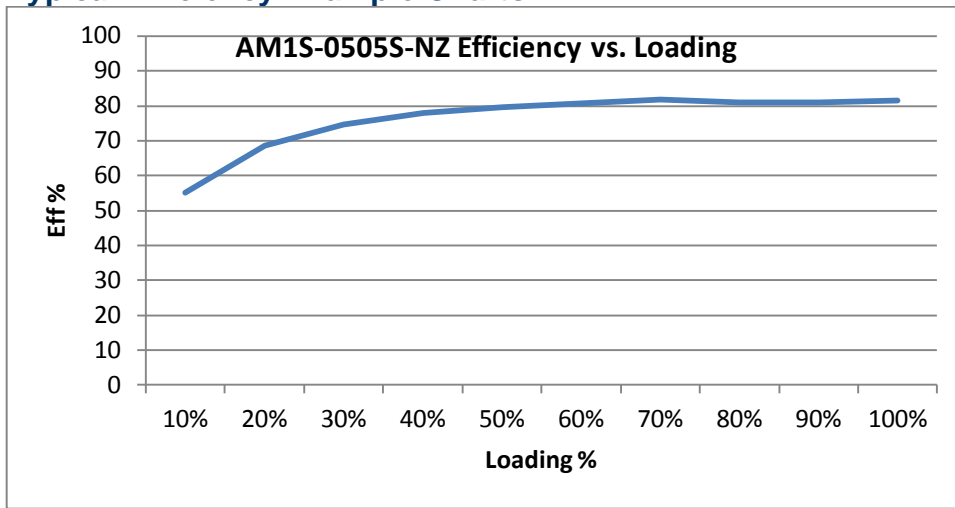
**Filtering**

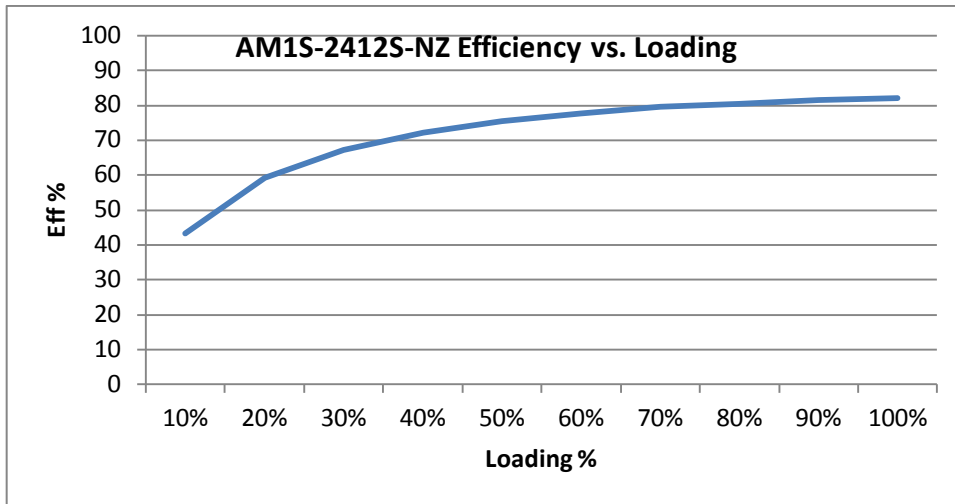


<Figure 1>



**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](http://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 than the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).