



### FEATURES:

- RoHS Compliant
- 24 Pin DIP Package
- Low Profile Plastic Package
- High Efficiency up to 83%
- Operating Temperature -40°C to + 85°C
- Input / Output Isolation 6000VDC
- 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)	Input Current Full Load   No Load (mA)		Efficiency (%)
AM2N-0505SH60-NZ	4.5-5.5	5	400	6000	500	40	76
AM2N-0509SH60-NZ	4.5-5.5	9	222	6000	500	40	79
AM2N-0512SH60-NZ	4.5-5.5	12	167	6000	500	40	80
AM2N-1205SH60-NZ	10.8-13.2	5	400	6000	200	15	78
AM2N-1209SH60-NZ	10.8-13.2	9	222	6000	200	15	81
AM2N-1215SH60-NZ	10.8-13.2	15	133	6000	200	15	83

### Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Input Current Full Load   No Load (mA)		Efficiency (%)
AM2N-0505DH60-NZ	4.5-5.5	±5	±200	6000	500	40	76
AM2N-0509DH60-NZ	4.5-5.5	±9	±110	6000	500	40	79
AM2N-0512DH60-NZ	4.5-5.5	±12	±84	6000	500	40	80
AM2N-0515DH60-NZ	4.5-5.5	±15	±67	6000	500	40	81
AM2N-1205DH60-NZ	10.8-13.2	±5	±200	6000	200	15	79
AM2N-1209DH60-NZ	10.8-13.2	±9	±110	6000	200	15	81
AM2N-1212DH60-NZ	10.8-13.2	±12	±84	6000	200	15	82
AM2N-1215DH60-NZ	10.8-13.2	±15	±67	6000	200	15	83

### Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage range	5 Vin	4.5-5.5		VDC
	12 Vin	10.8-13.2		
Absolute maximum (1 sec max)	5 Vin		-0.7 to 9	VDC
	12 Vin		-0.7 to 18	
Reflected Ripple Current	5 Vin	15		mA
	12 Vin	5		
Filter	Capacitor			

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		6000	VDC
Resistance		>1000		MOhm
Capacitance		5		pF

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		See tolerance graph		
Short Circuit protection		Continuous with Auto Recovery		
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 10-100%	15		%
Load voltage regulation (Dual)	Load 10-100%	15		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise	At 20MHz Bandwidth	150		mV p-p

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	5Vin 60 12vin 80		KHz
Operating temperature	Without derating		-40 to +85	°C
Storage temperature			-55 to +125	°C
Max Case temperature			95	°C
Cooling		Free air convection		
Humidity			95	%
Case material		Plastic UL94-VO		
Weight		8.2		g
Dimensions (L x W x H)		1.27 x 0.65x 0.40 inches	32.30 x 16.65 x 10.30 mm	
MTBF		>3500 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		

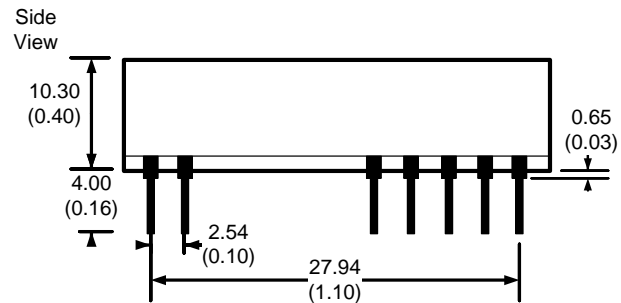
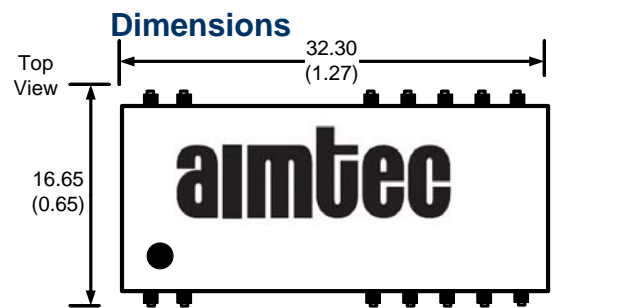
NOTE: All specifications are in this datasheet measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

### Safety Specifications

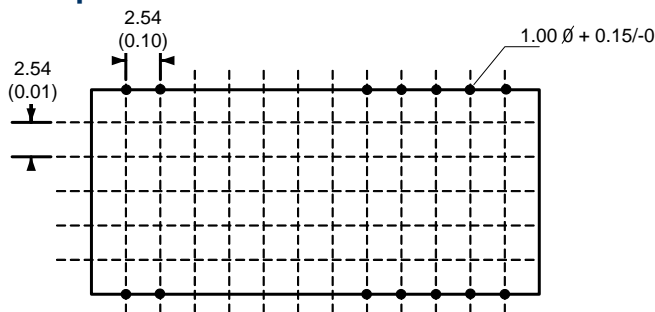
Parameters	
Agency approvals	cULus
Standards	UL60950-1

### Pin Out Specifications

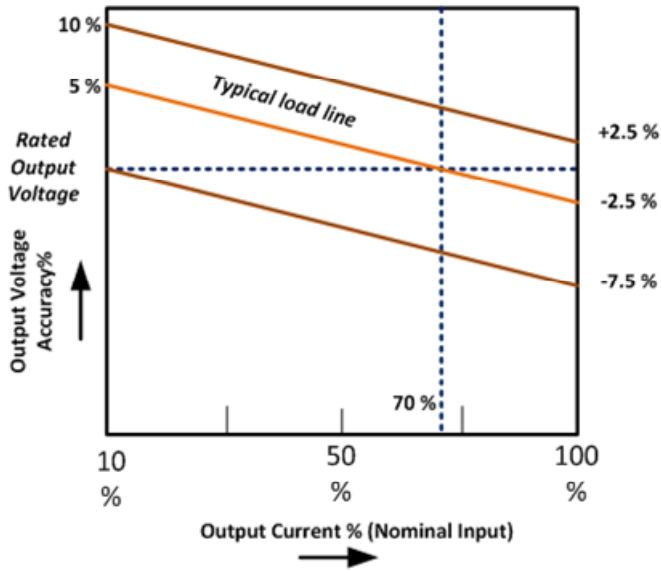
Pin	Single	Dual
1	+V Input	+V Input
2	-V Input	-V Input
8,17	N.C.	-V Output
10,15	-V Output	Common
12,13	+V Output	+V Output
All other pins No Connection		



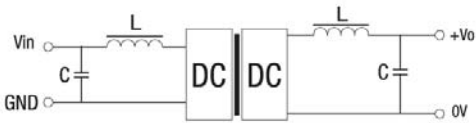
### Footprint



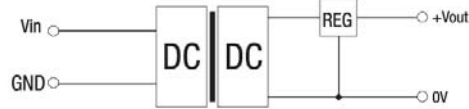
Typical characteristics



Filtering single output

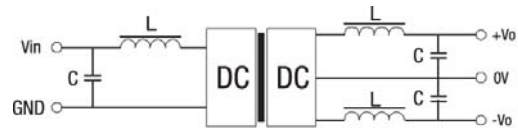


<Figure 1>

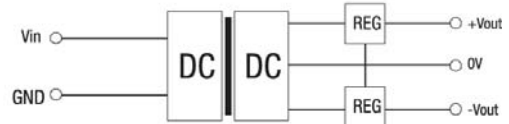


<Figure 2>

Filtering dual output



<Figure 1>



<Figure 2>

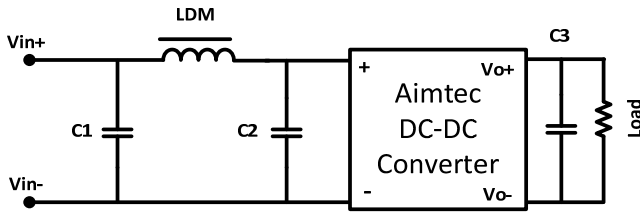
External capacitor – Single output

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

External capacitor – Dual output

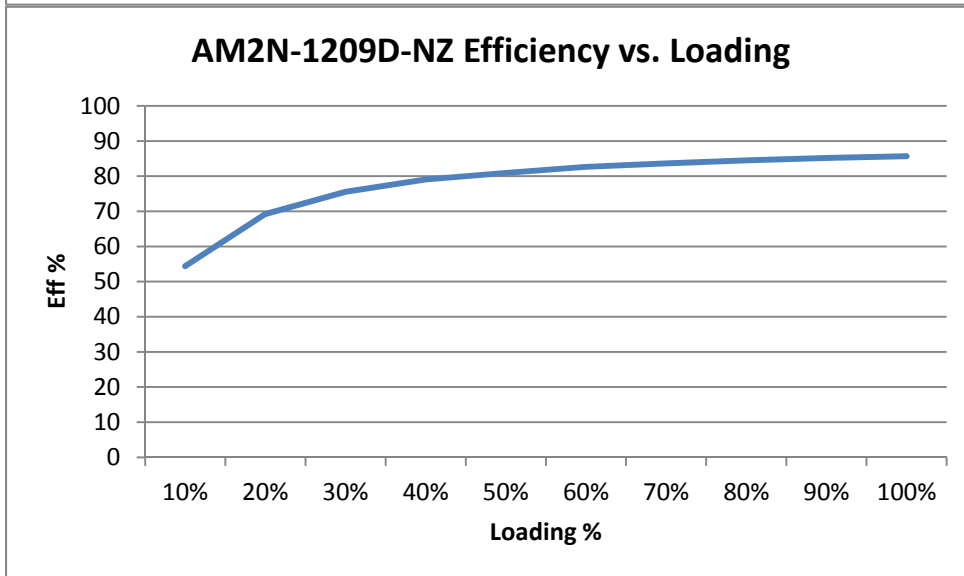
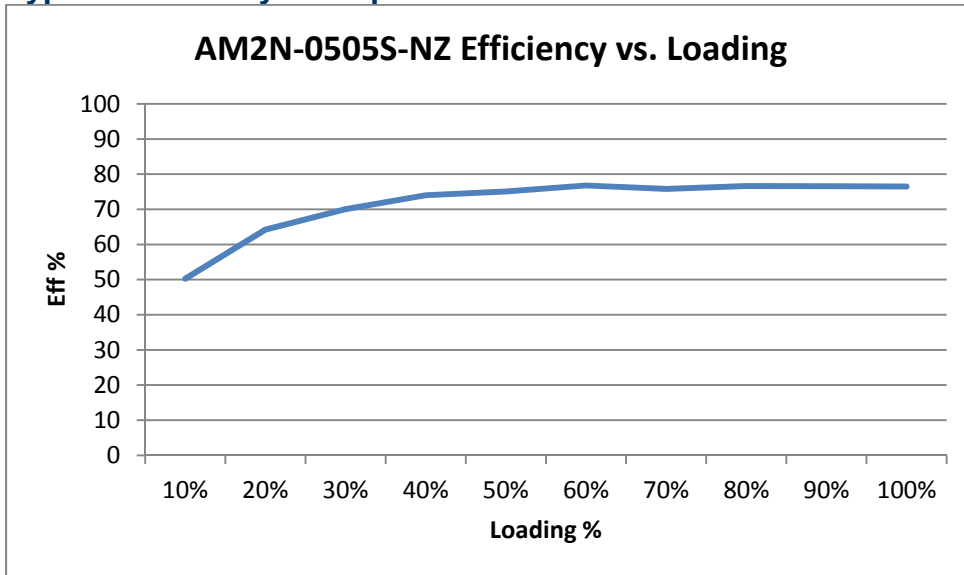
Vin (VDC)	External capacitor (uF)	Vout (VDC)	External capacitor (uF)
5	4.7	5	4.7
12	2.2	9	2.2
-	-	12	1
-	-	15	0.47

EMI Filtering Recommended Circuit



C1	LDM	C2	C3
4.7 $\mu$ F / 50V	6.8 $\mu$ H	4.7 $\mu$ F / 50V	See external Capacitor tables Above

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).