Series AM2N-NZ

2 Watt | DC-DC Converter



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 12 Vin	4.5-5.5 10.8-13.2		VDC
Absolute maximum (1 sec max)	5 Vin 12 Vin		-0.7 to 9 -0.7 to 18	VDC
Reflected Ripple Current	5 Vin 12 Vin	15 5		mA
Filter	Capacitor			

Isolation Specifications

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

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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		%/ºC
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		ºC
Storage temperature		-55 to +125		ºC
Max Case temperature			95	ºC
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=+25ºC)			

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.

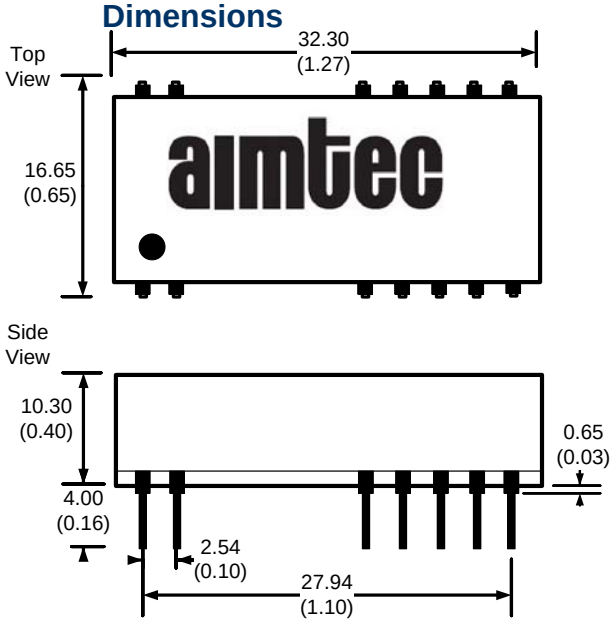
Safety Specifications

Parameters	
Agency approvals	cULus
Standards	UL60950-1

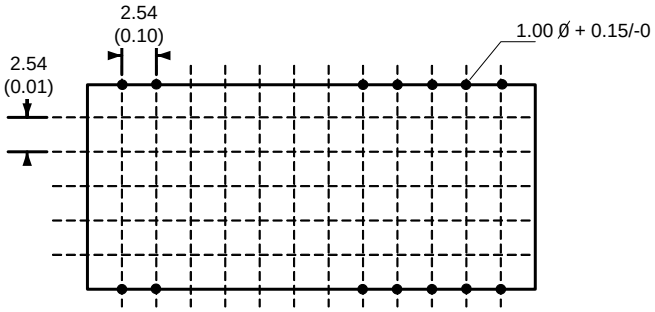
Pin Out Specifications

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		

Dimensions

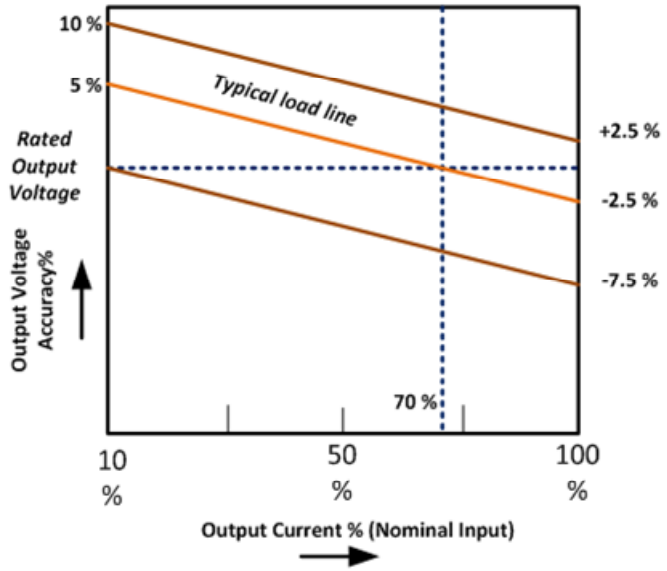


Footprint

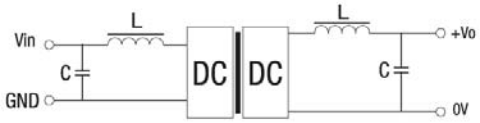


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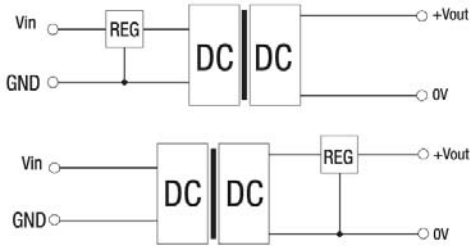
Typical characteristics



Filtering single output

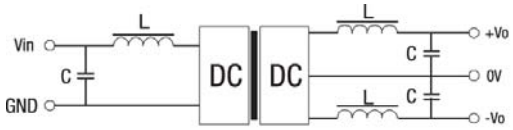


<Figure 1>

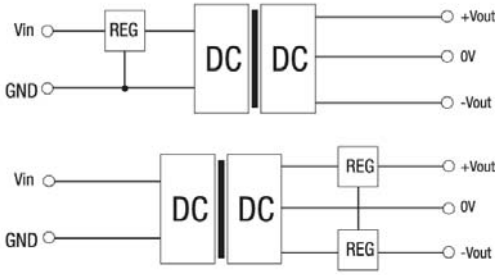


<Figure 2>

Filtering dual output



<Figure 1>



<Figure 2>

External capacitor – Single output

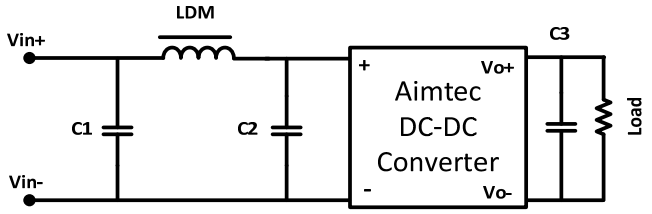
Vin (VDC)	External capacitor (uF)	Vout (VDC)	External capacitor (uF)
5	4.7	5	10
12	2.2	9	4.7
-	-	12	2.2
-	-	15	1

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

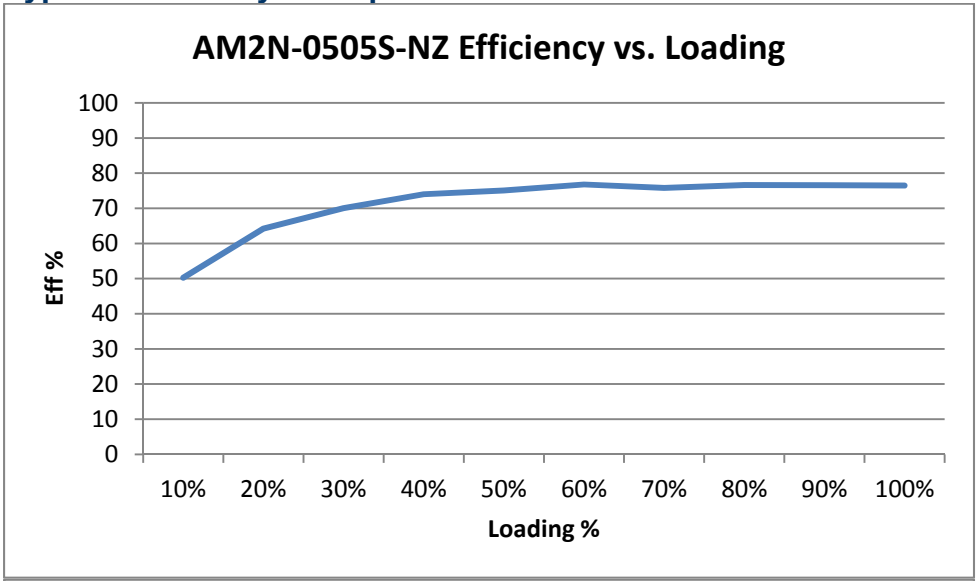
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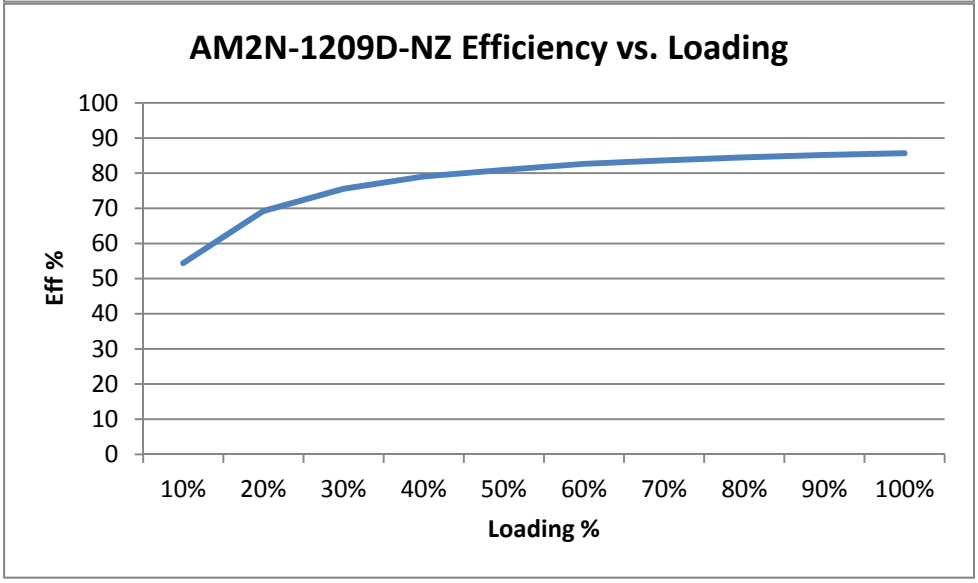
EMI Filtering Recommended Circuit



C1	LDM	C2	C3
4.7 µF / 50V	6.8 µH	4.7 µF / 50V	See external Capacitor tables Above

Typical Efficiency Example Charts





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