



**FEATURES:**

- 3 Pin SIP Package
- Pin-out compatible with LM78XX Linear Regulators
- Short Circuit Protection
- Non-Isolated Regulated Outputs
- Operating temperature -40°C to +85°C
- Wide input range
- Very High Efficiency Up To 96%
- Low ripple and noise



**Models**  
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (A)	Efficiency Vin Max (%)	Efficiency Vin Min (%)
AMSR1-783.3-NZ	4.75-28	3.3	1	90	83
AMSR1-7805-NZ	6.5-32	5	1	93	88
AMSR1-786.5-NZ	9.0-32	6.5	1	94	90
AMSR1-7809-NZ	12-32	9	1	95	92
AMSR1-7812-NZ	16-32	12	1	96	94

**Input Specifications**

Input Specifications	Nominal	Typical	Maximum	Units
Voltage range	See the table above			VDC
Filter	Capacitor			
Quiescent Current	Vin=(LL-HL) at full load	5	7	mA
Short Circuit consumption		0.5	1.2	W

**Output Specifications**

Output Specifications	Conditions	Typical	Maximum	Units
Voltage accuracy	100% load	±3		%
Short Circuit protection		Continuous.		
Short circuit restart		Auto recovery		
Output current limit			2	A
Thermal shutdown	Internal IC junction	150		°C
Dynamic load stability	10-100% load		±100	mV
Line voltage regulation	Vin=(LL-HL) at full load	±0.4		%
Load voltage regulation	10-100% load	±0.6		%
Temperature coefficient	-40°C to +85°C ambient	±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	35		mV p-p
Maximum Capacitive Load			2000	µF

**General Specifications**

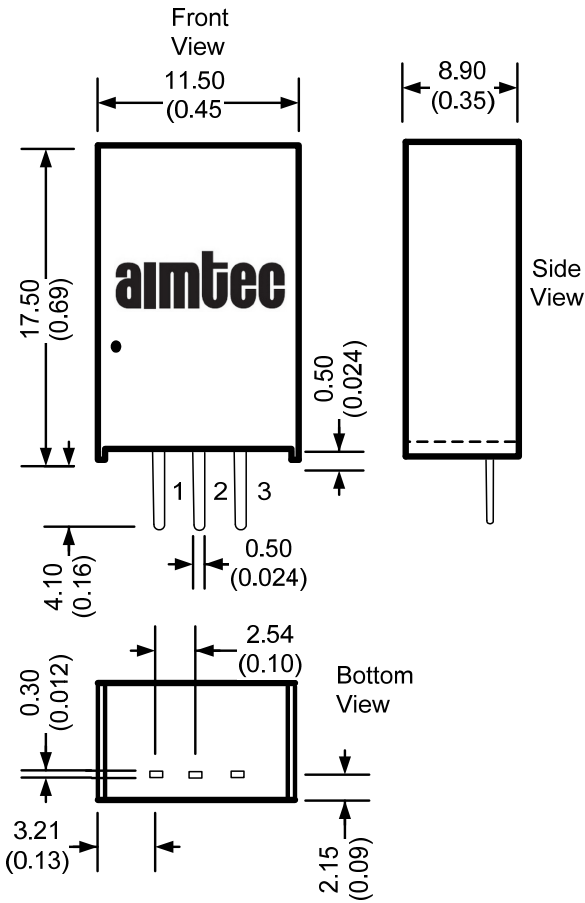
Input Specifications	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	With derating above 71°C	-40 to +85		°C
Storage temperature		-55 to +125		°C
Max Case temperature			100	°C
Cooling		Free air convection		
Humidity			95	%
Case material		Non-conductive black plastic (UL94V-0 rated)		
Weight		3.7		g
Dimensions (L x W x H)		0.45 X 0.35 X 0.69 inch	11.50 X 8.90 X 17.50 mm	
MTBF		> 2 000 000 hrs (MIL-HDBK-217F, Ground Benign, t=+25°C)		
Soldering Temperature	1.5 mm from case for 10 sec		300	°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.

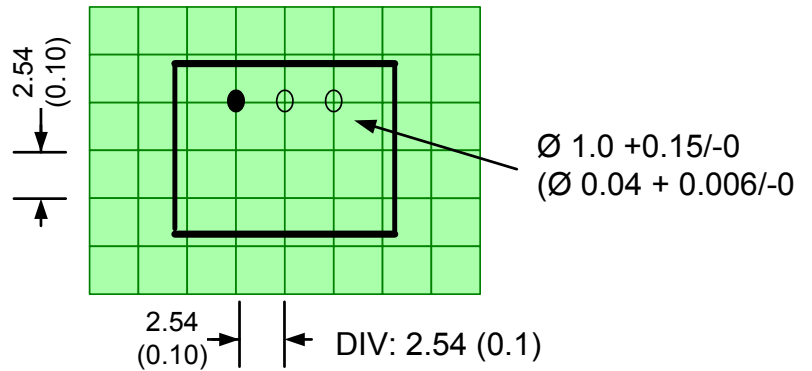
### Pin Out Specifications

Pin	Single
1	+Vin
2	GND
3	+Vout

### Dimensions

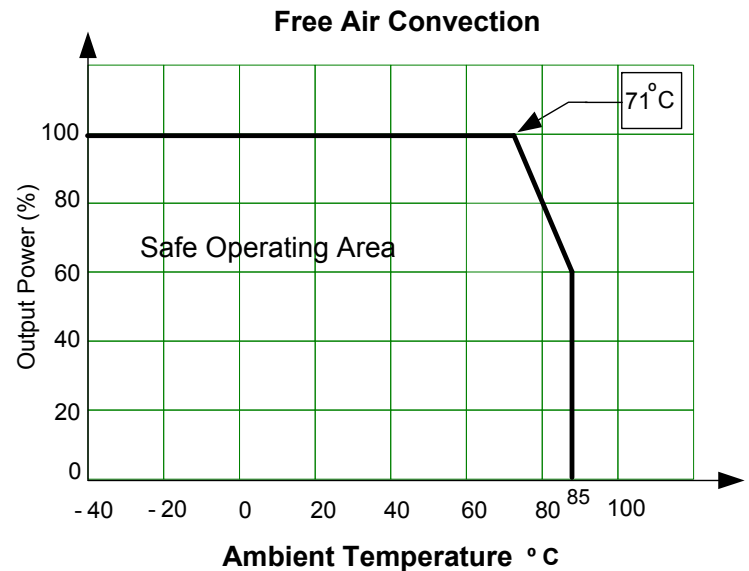


### Footprint

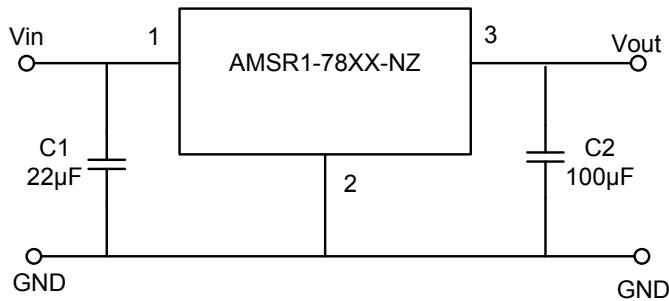


Dimensions are typical values: mm (inch)  
General Tolerance:  $\pm 0.25$  ( $\pm 0.01$ )  
Pin Tolerance:  $\pm 0.1$  ( $\pm 0.004$ )

### Derating



## Typical Application Circuit



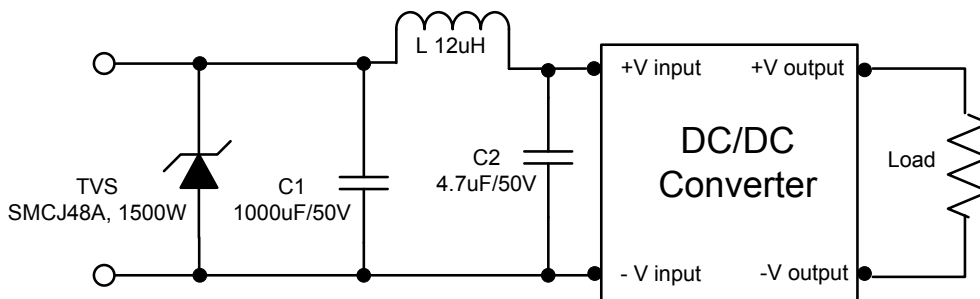
**C1:** A low ESR capacitor is required to keep the noise of the converter to a minimum.

Ceramic capacitors are recommended, but tantalum or electrolytic may be used. Typical value is 22 $\mu$ F / 50V.

**C2:** Installation of C2 is recommended but optional. Typical recommended value is 100 $\mu$ F / 25V electrolytic.

**NOTE:** This part is not designed for parallel operation.

## Recommended Circuits Conducted and Radiated Emissions



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