



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

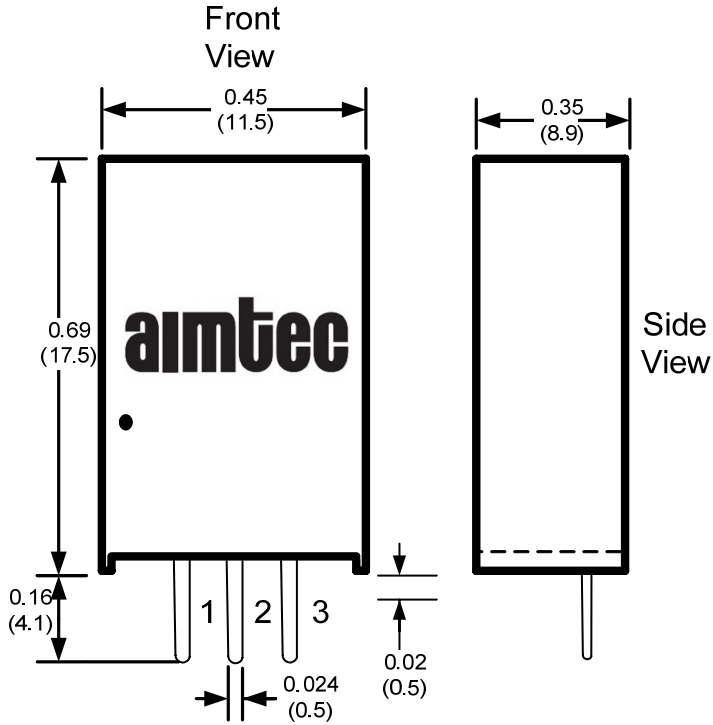
| Input Specifications | Conditions | Typical | Maximum | Units |
|------------------------|--|---|-------------------------|-------|
| Switching frequency | 100% load | 330 | | KHz |
| Operating temperature | With derating above 71°C | -40 to +85 | | °C |
| Storage temperature | | -55 to +125 | | °C |
| 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.

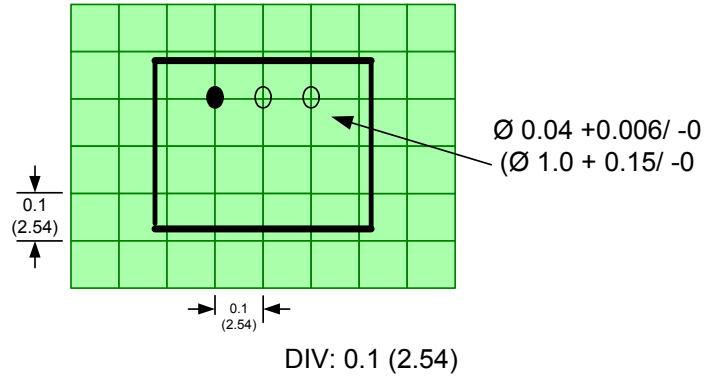
Pin Out Specifications

| Pin | Single |
|-----|--------|
| 1 | +Vin |
| 2 | GND |
| 3 | +Vout |

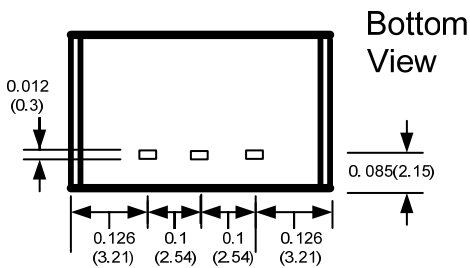
Dimensions



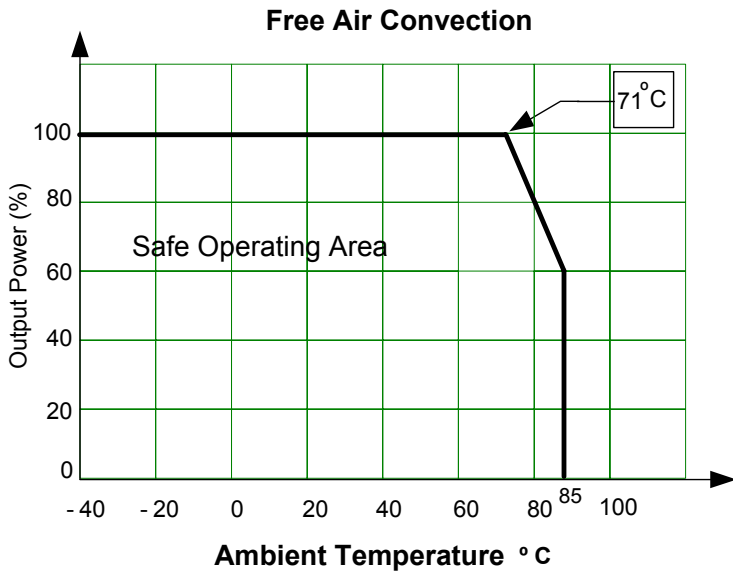
Footprint



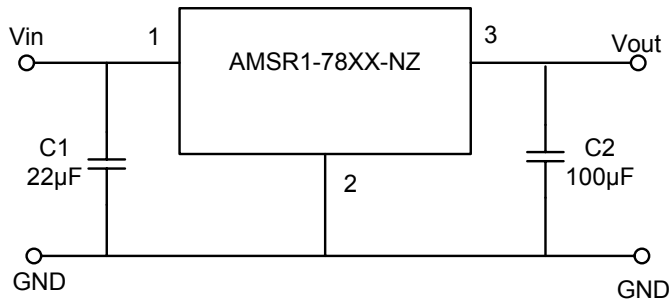
Dimensions: inch (mm)
General Tolerance: ± 0.01 (0.25)
Pin Tolerance: ± 0.004 (0.1)



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 22µF / 50V.

C2: Installation of C2 is recommended but optional. Typical recommended value is 100µF / 25V electrolytic.

NOTE: This part is not designed for parallel operation.

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. 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. 5. 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.