

FEATURES:



- RoHS Compliant
- 3 Pin SIP Package
- Non-Isolated
- Low ripple and noise
- Operating temperature -40°C to +85°C
- Very high efficiency up to 96%
- Pin compatible to multiple manufacturers
- Regulated Outputs

Models
Single output



| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Efficiency Vin Max (%) | Efficiency Vin Min (%) |
|---------------|-------------------|--------------------|-------------------------|------------------------|------------------------|
| AMSR-783.3-NZ | 4.75-28 | 3.3 | 500 | 90 | 80 |
| AMSR-7805-NZ | 6.5-32 | 5 | 500 | 93 | 84 |
| AMSR-786.5-NZ | 8-32 | 6.5 | 500 | 94 | 87 |
| AMSR-7809-NZ | 11-32 | 9 | 500 | 95 | 91 |
| AMSR-7812-NZ | 15-32 | 12 | 500 | 95 | 92 |
| AMSR-7815-NZ | 18-32 | 15 | 500 | 96 | 93 |

Input Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---------------------------|------------------------|---------|---------|-------|
| Voltage range | See the table above | | | VDC |
| Filter | Capacitor | | | |
| Quiescent current | Vin=(LL-HL) at 0% load | | 7 | mA |
| Short circuit consumption | | | 0.8 | W |

Output Specifications

| Parameters | 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 | | | 1000 | uF |

General Specifications

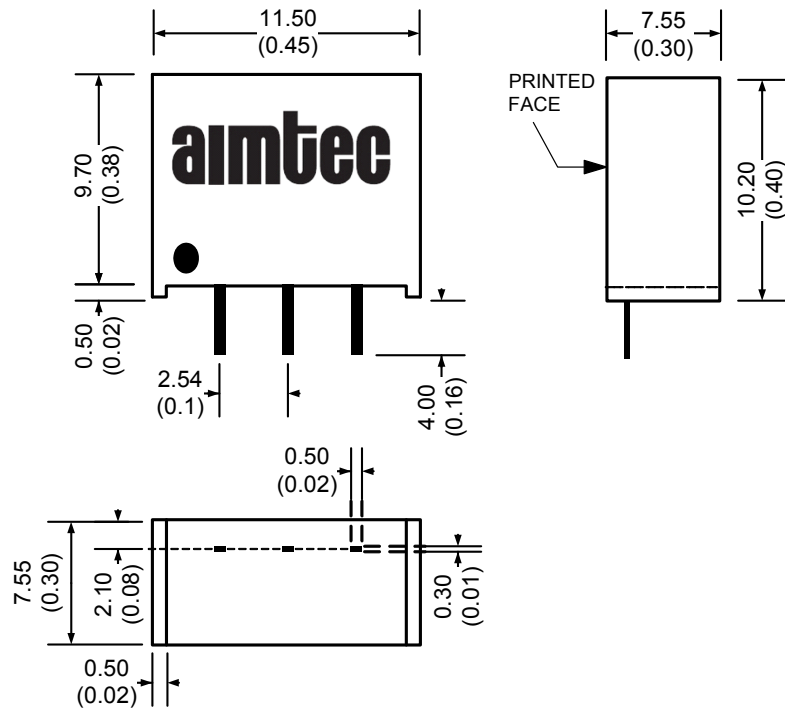
| Parameters | Conditions | Typical | Maximum | Units |
|------------------------|----------------------------------------------|----------------------------------------------------------|-------------------------|-------|
| Switching frequency | 100% load | 330 | | KHz |
| Operating temperature | With 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 | | 2 | | g |
| Dimensions (L x W x H) | | 0.45 x 0.30 x 0.40 inches | 11.50 x 7.60 x 10.20 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

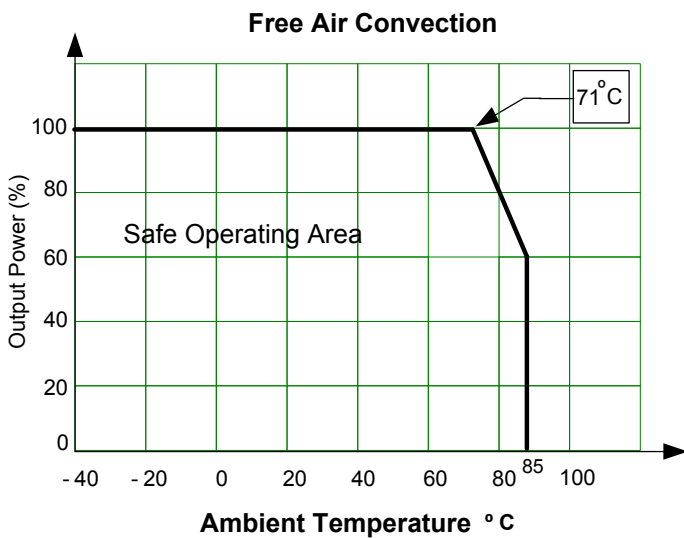
| Pin | Single |
|-----|-----------|
| 1 | +V Input |
| 2 | Ground |
| 3 | +V Output |

Dimensions

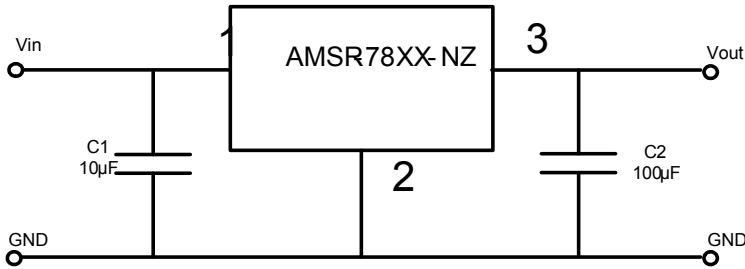


Dimensions are in mm (inch)
Pin Tolerance: ± 0.16 mm (0.004 inch)
Case Tolerance: ± 0.25 mm (0.01 inch)

Derating



Standard Application Circuit



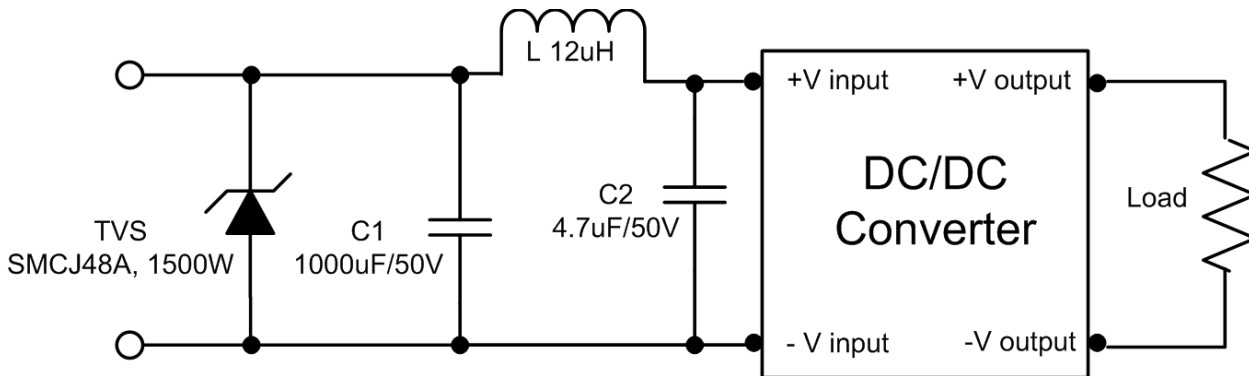
C1: A low ESR capacitor is required to keep the noise of the converter to a minimum.

Ceramic capacitors are recommended, but tantalum or electrolytic may be used. Typical value is 10µF / 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

Recommended Circuits Conducted and Radiated Emissions



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