



## FEATURES:

- RoHS Compliant
- 3 Pin SIP Package
- Non-Isolated
- Low ripple and noise
- Operating temperature -40°C to +85
- Very high efficiency up to 97%
- Pin compatible to multiple manufacturers

Models  
Single output

| Model       | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Maximum Capacitive load ( $\mu$ F) | Efficiency Vin Min (%) | Efficiency Vin Max (%) |
|-------------|-------------------|--------------------|-------------------------|------------------------------------|------------------------|------------------------|
| AMSR-781.5Z | 4.75-30           | 1.5                | 500                     | 220                                | 78                     | 65                     |
| AMSR-781.8Z | 4.75-34           | 1.8                | 500                     | 220                                | 82                     | 70                     |
| AMSR-782.5Z | 4.75-34           | 2.5                | 500                     | 220                                | 87                     | 76                     |
| AMSR-783.3Z | 4.75-34           | 3.3                | 500                     | 220                                | 91                     | 81                     |
| AMSR-7805Z  | 6.5-34            | 5                  | 500                     | 220                                | 94                     | 85                     |
| AMSR-786.5Z | 8-34              | 6.5                | 500                     | 220                                | 95                     | 88                     |
| AMSR-787.2Z | 9-34              | 7.2                | 500                     | 220                                | 95                     | 89                     |
| AMSR-7809Z  | 11-34             | 9                  | 500                     | 220                                | 96                     | 92                     |
| AMSR-7812Z  | 15-34             | 12                 | 500                     | 220                                | 97                     | 94                     |
| AMSR-7815Z  | 18-34             | 15                 | 500                     | 220                                | 97                     | 95                     |

## Input Specifications

| Parameters                       | Nominal             | Typical | Maximum | Units  |
|----------------------------------|---------------------|---------|---------|--------|
| Voltage range                    | See the table above |         |         |        |
| Filter                           | Capacitor           |         |         |        |
| No load Input Current            |                     |         | 8       | mA     |
| Input Reflected Ripple Current * |                     | 35      |         | mA p-p |
| Absolute Maximum Stress rating   |                     |         | -0.3-34 | VDC    |

\* The input reflected ripple current should be measured with a 12 $\mu$ H inductor.

## Output Specifications

| Parameters               | Conditions                    | Typical    | Maximum   | Units           |
|--------------------------|-------------------------------|------------|-----------|-----------------|
| Voltage accuracy         |                               |            | $\pm$ 2   | %               |
| Short Circuit protection | Continuous                    |            |           |                 |
| Short Circuit restart    | Auto recovery                 |            |           |                 |
| Line voltage regulation  |                               |            | $\pm$ 0.5 | %               |
| Load voltage regulation  | 10-100% load                  |            | $\pm$ 0.6 | %               |
| Temperature coefficient  |                               | $\pm$ 0.02 |           | %/ $^{\circ}$ C |
| Ripple & Noise           | 20MHz Bandwidth, 10-100% load |            | 60        | mV p-p          |

## General Specifications

| Parameters             | Conditions   | Typical     | Maximum | Units        |
|------------------------|--|-------------|---------|--------------|
| Switching frequency    | 100% load  | 330         |         | KHz          |
| Operating temperature  | Without derating   | -40 to +85  |         | $^{\circ}$ C |
| Storage temperature    |  | -40 to +125 |         | $^{\circ}$ C |
| Max Case temperature   |  |             | 100     | $^{\circ}$ 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) | 0.46 x 0.29 x 0.38 inches 11.70 x 7.50 x 9.70 mm                   |             |         |              |
| MTBF                   | > 4 500 000 hrs (MIL-HDBK-217F, Ground Benign, t=+25 $^{\circ}$ C) |             |         |              |
| Soldering Temperature  | 1.5 mm from case for 10 sec  |             | 260     | $^{\circ}$ C |

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

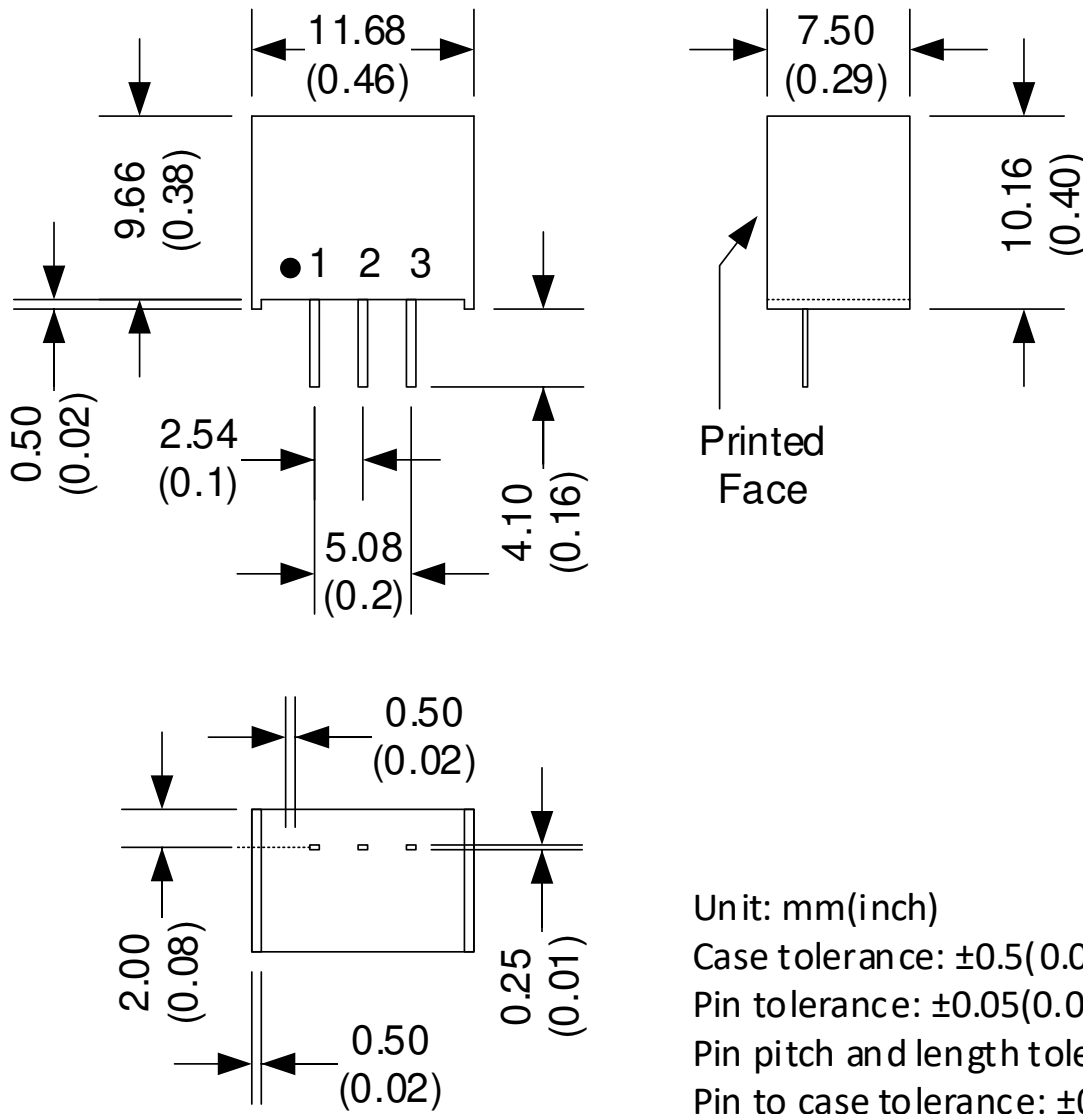
### Safety Specifications

| Parameters      |   |
|-----------------|---|
| Agency Approval | CE  |
| Standards       | EN55032, Class B  |
|                 | IEC61000-4-2, Perf. Criteria A                                    |
|                 | IEC61000-4-3, Perf. Criteria A                                    |
|                 | IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required) |
|                 | IEC61000-4-6, Perf. Criteria A                                    |
|                 | IEC61000-4-8, Perf: Criteria A                                    |

### Pin Out Specifications

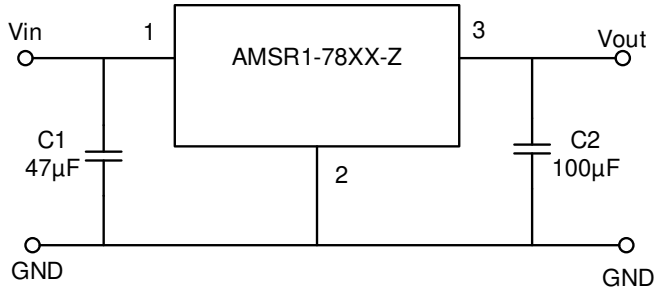
| Pin | Single    |
|-----|-----------|
| 1   | +V Input  |
| 2   | Ground    |
| 3   | +V Output |

### Dimensions



Unit: mm(inch)  
 Case tolerance:  $\pm 0.5(0.02)$   
 Pin tolerance:  $\pm 0.05(0.002)$   
 Pin pitch and length tolerance:  $\pm 0.35(0.014)$   
 Pin to case tolerance:  $\pm 0.5(0.02)$

### Typical Application Circuit



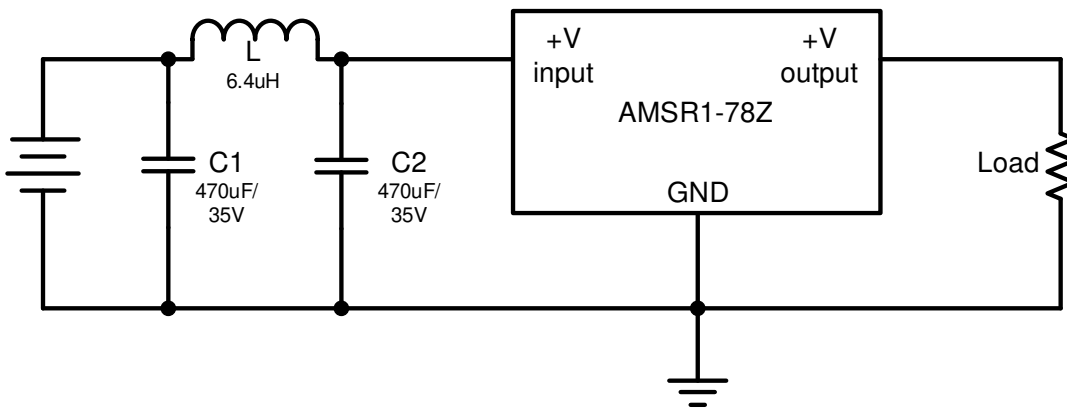
C1: A low ESR capacitor is required to keep the converter to a minimum. Ceramic capacitors are recommended, but tantalum or electrolytic may be used. Typical value is 47µF.

C2: Installation of C2 is recommended but optional. Typical value 100µF.

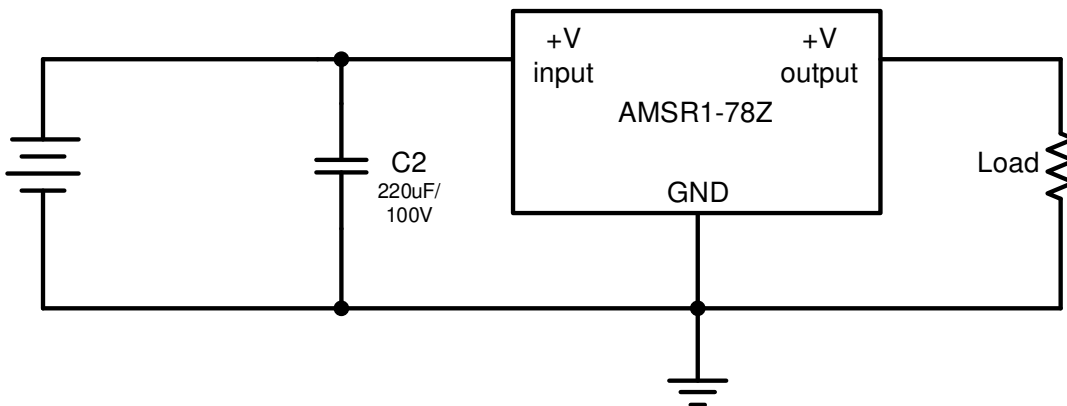
**NOTE: It is not recommended to connect in parallel.**

### Recommended circuit

#### Conducted and Radiated Emissions



#### EFT/Surge



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