



**FEATURES:**

- 3 Pin SIP package
- Non-isolated regulated output
- Short circuit protection
- Pin-out compatible with LM78XX Linear Regulators
- No heatsink required
- Operating temperature -40°C to +85°C
- High efficiency Up To 94%
- Low ripple and noise



**Models**  
**Single output**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Efficiency Vin Max (%)	Efficiency Vin Min (%)
AMSR1-781.5Z	4.75-18	1.5	1000	78	72
AMSR1-781.8Z	4.75-18	1.8	1000	82	76
AMSR1-782.5Z	4.75-18	2.5	1000	87	81
AMSR1-783.3Z	4.75-18	3.3	1000	90	85
AMSR1-7805Z	6.50-18	5	1000	94	89

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.

**Input Specifications**

Parameters	Nominal	Typical	Maximum	Units
Voltage range		See the table above		VDC
Filter		Capacitor		
Absolute Maximum Rating		-0.3~20		VDC

**Output Specifications**

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Short Circuit protection		Continuous		
Short Circuit restart		Auto-Recovery		
Line voltage regulation	Vin=(LL-HL) at full load	±0.5		%
Load voltage regulation	10-100% load	±0.6		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	60		mV p-p
Minimum Load Current		10		% of lout max
Capacitive load			220	uF

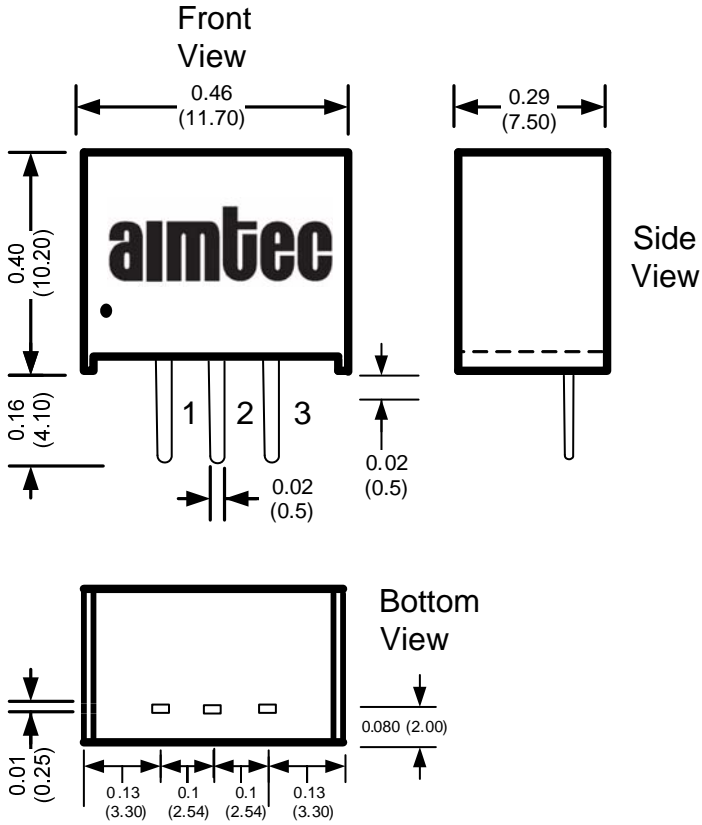
**General Specifications**

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	With derating above +60		-40 to +85	°C
Storage temperature		-40 to +125		°C
Maximum case temperature			100	°C
Cooling		Free Air Convection		
Humidity			95	% RH
Case material		Non-conductive black plastic (UL94V-0 rated)		
Weight		2		g
Dimensions (L x W x H)		0.46 x 0.29 x 0.40 inches	11.70 x 7.40 x 10.20 mm	
MTBF		> 4300000 hrs (MIL-HDBK-217F, Ground Benign, t=+25 °C)		
Maximum soldering temperature	1.5 mm from case for 10sec		260	°C

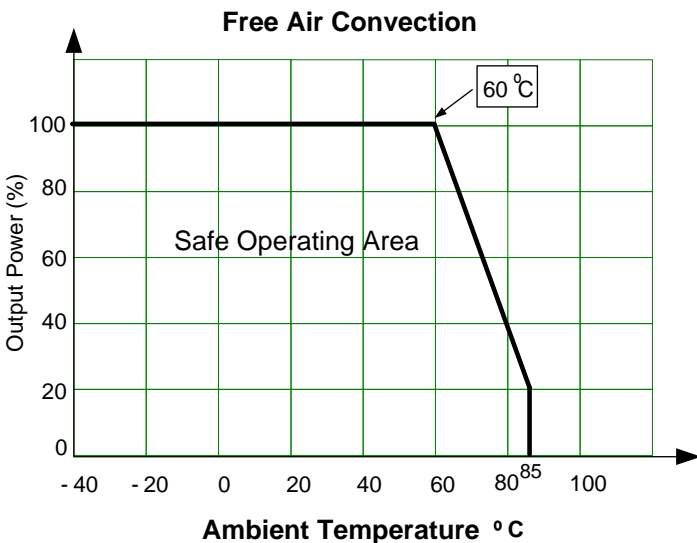
### Pin Out Specifications

Pin	Single
1	+Vin
2	GND
3	+Vout

### Dimensions

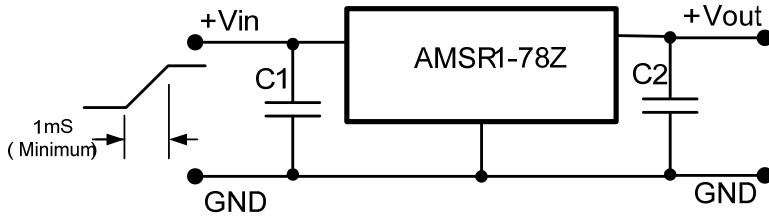


### Derating



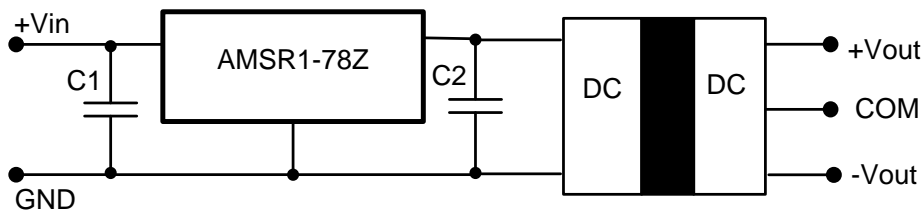
## Application Circuits

### Recommended soft start circuit



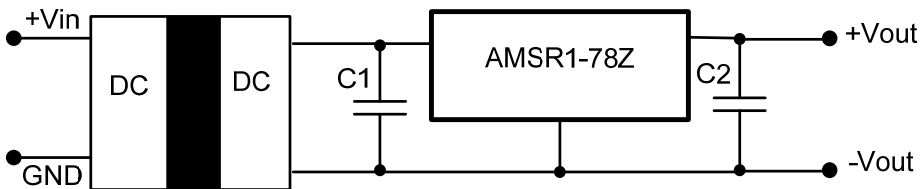
To protect converter during power up use "soft start"  $V_{in}$  and  $C1 = 47 \mu F$   
 $C2 = 10 \mu F$  (optional)

### Wide input isolated (up to 6000VDC) dual outputs with high efficiency



Isolated Dual Outputs  
Wide Input Range 6.5V to 18V  
C1: Optional  
C2: Required for Decoupling (further decoupling may be required between the two converters).

### Isolated (up to 6000VDC) single and regulated output



Isolated Single Output  
Wide Input Range 6.5V to 18V  
Point of Load Architecture  
Improved Line/Load Regulation  
C1: Required for Decoupling (further decoupling may be required between the two converters).  
C2: Optional

**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](http://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. All specifications are measured at an ambient temperature of 25°C, humidity < 75%, nominal input voltage and at rated output load unless otherwise specified. 5. 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. 6. 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. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).