Series AMSR1-78Z

Up to 5 Watt | DC-DC Converter

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 Iout max
Capacitive load			220	uF

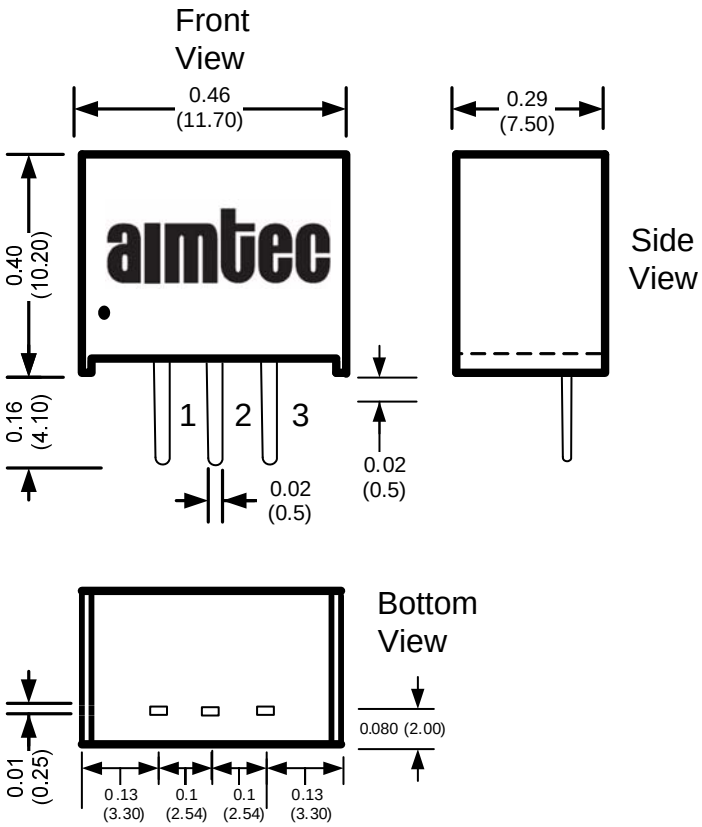
General Specifications

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 oC)			
Maximum soldering temperature	1.5 mm from case for 10sec		260	°C

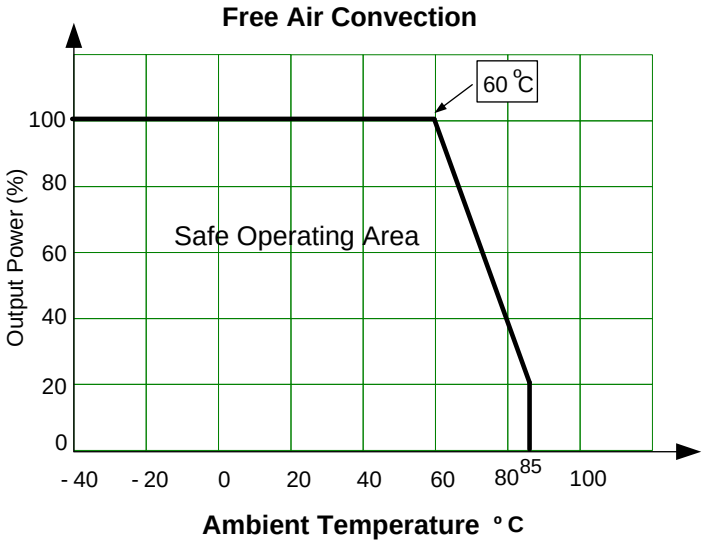
Pin Out Specifications

Pin	Single
1	+Vin
2	GND
3	+Vout

Dimensions

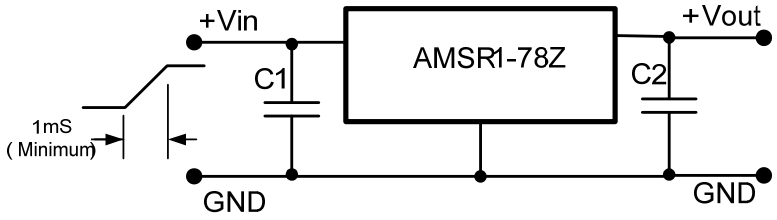


Derating



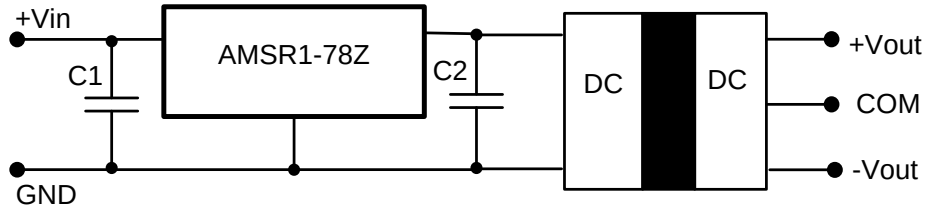
Application Circuits

Recommended soft start circuit



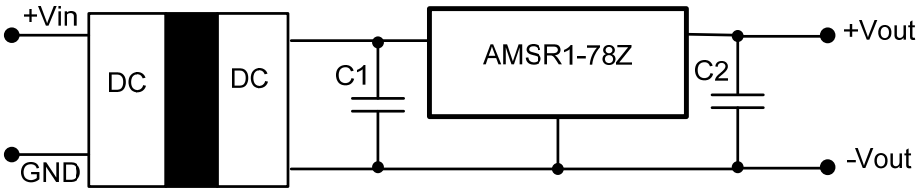
To protect converter during power up use "soft start" Vin and C1 = 47 uF
C2 = 10 uF (optional)

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