aimtec
Your Power Partner

Series AMSR-78Z

Up to 7.5Watt | DC-DC Switching Regulator



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

RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Maximum Capacitive load (µF)	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		VDC
Filter		Capacitor		
No load Input Current			8	mA
Input Reflected Ripple Current			35	mA p-p
Absolute Maximum Stress rating			-0.3-34	VDC

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Short Circuit protection		Continuous		
Short Circuit restart		Auto recovery		
Line voltage regulation		±0.5		%
Load voltage regulation	10-100% load	±0.6		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	60		mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		**KHz**
Operating temperature	Without derating	-40 to +85		**°C**
Storage temperature		-40 to +125		**°C**
Max Case temperature			100	°C
Cooling		Free air convection		
Humidity			95	%
Case material		Non-conductive black plastic (UL94V-0 rated)		
Weight		1.8		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		> 1 121 000 hrs (MIL-HDBK-217F, Ground Benign, t=+25 °C)		
Soldering Temperature	1.5 mm from case for 10 sec		260	**°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.

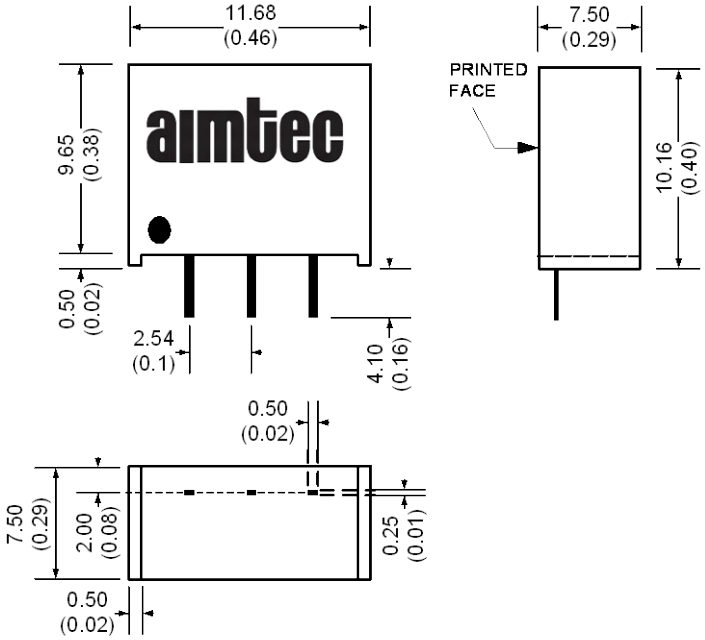
Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55022: 2006 + A1:2007, Class B EN55024:1998 + A1:2001 + A2:2003
	IEC61000-4-2:1995 + A1:1998 + A2:2000, Perf. Criteria B
	IEC61000-4-3:2006, Perf. Criteria A
	IEC61000-4-4:2004, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-6:2007, Perf. Criteria A
	IEC61000-4-8, Perf:1993 + A1:2000, Criteria A
	NOTE: also designed to meet IEC 60950-1:2001

Pin Out Specifications

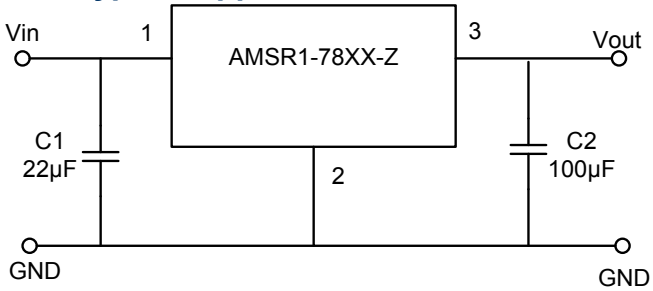
Pin	Single
1	+V Input
2	Ground
3	+V Output

Dimensions



Dimensions are in mm (inch)
Pin Pitch Tolerance: 0.35 mm (0.014 inch)
Case Tolerance: 0.50 mm (0.02 inch)

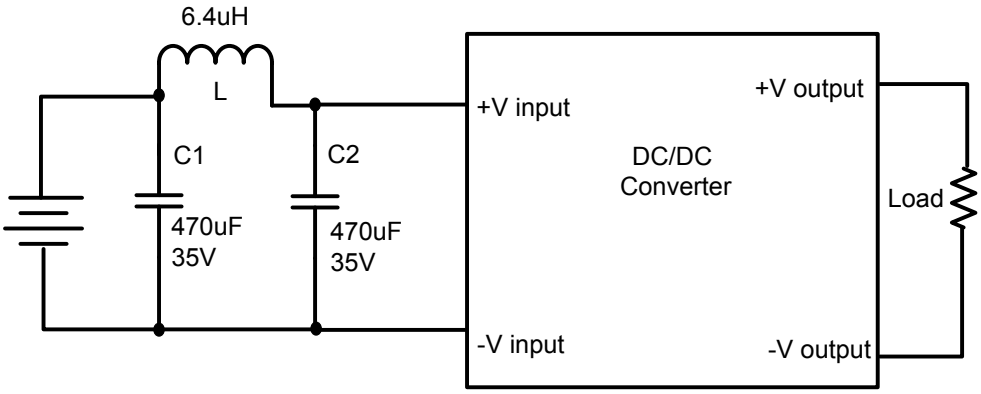
Typical Application Circuit



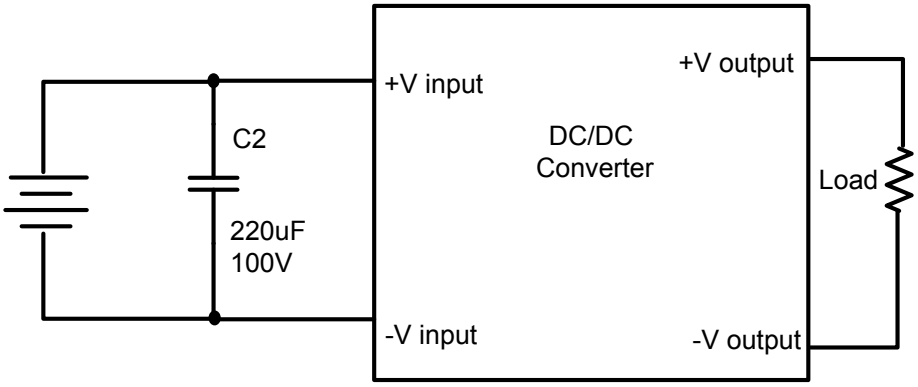
C1: A low ESR capacitor is required to keep the converter to a minimum. Ceramic capacitors are recommended, but tantalum or electrolytic may be used. Typical value is 22µF / 50V.
C2: Installation of C2 is recommended but optional. Typical value 100µF / 25V electrolytic.
NOTE: It is not recommended to connect in parallel.

Recommended Circuits

Conducted and Radiated Emissions



EFT/Surge



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