aimtec
Your Power Partner

Series AMSRW-78Z

Up to 7.5 Watt | DC-DC Switching Regulator



FEATURES:

- 3 Pin SIP package
- Very high efficiency up to 95%
- Non Isolated
- Low Ripple and Noise
- High voltage input range up to 72V
- Operating temperature -40ºC to +85ºC
- Pin Compatible with multiple manufacturers
- Continuous Short Circuit Protection

RoHS CE

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max Capacitive Load (uF)	Efficiency Vin Min (%)	Efficiency Vin Max (%)
AMSRW-783.3Z	9-72	3.3	500	100	82	75
AMSRW-7805Z	9-72	5	500	100	88	80
AMSRW-786.5Z	9-72	6.5	500	100	91	83
AMSRW-787.2Z	14-72	7.2	500	100	91	84
AMSRW-7809Z	14-72	9	500	100	92	86
AMSRW-7812Z	17-72	12	500	100	94	89
AMSRW-7815Z	20-72	15	500	100	95	89

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	See table above			
Filter	Capacitor			
No Load Input Current	Vin=(LL-HL) at 0% load		0.3	mA
Input reflected ripple current*	Full Load		35	mA p-p
Absolute Maximum Rating		75		VDC
Peak Input Voltage Time		100		mS

* The input reflected ripple current should be measured with a 12µH inductor.

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	100% Load		±3	%
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Line voltage regulation	Vin=(LL-HL) at full load		±1	% of Vin
Load voltage regulation	From 10% to 100% Load		±1	%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth, 10% to 100% Load		75	mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	120 to 800		KHz
Operating temperature	Derating above 60°C	-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 11.68 x 7.50 x 10.16 mm			
MTBF	>4 500 000 hours (MIL-HDBK-217F, Ground Benign, t=+25°C)			
Maximum soldering temperature			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.

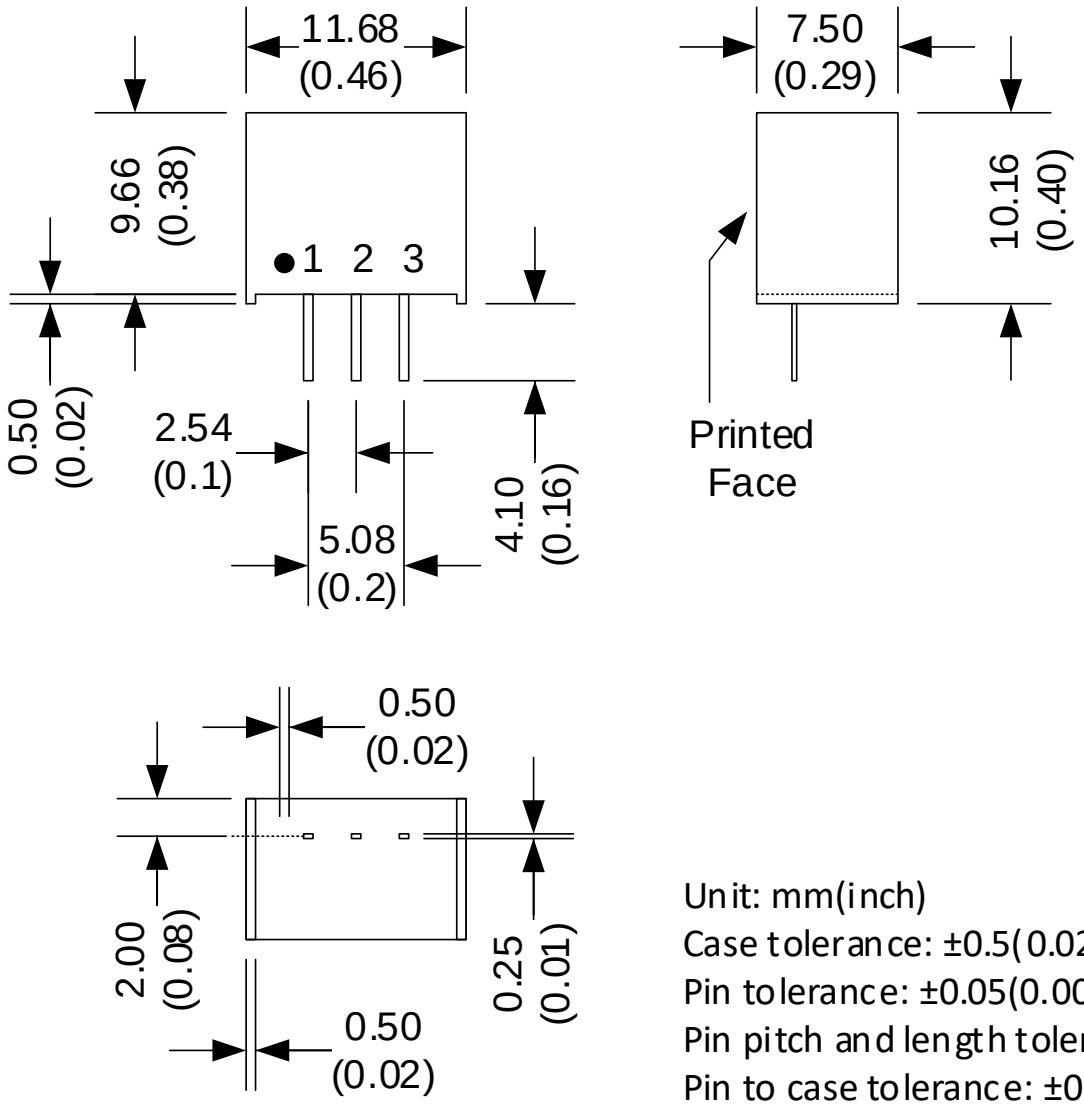
Safety Specifications

Parameters	
Agency Approvals	CE
Standards	EN 55032 class B, with the recommended circuit
	IEC 61000-4-2, Perf. Criteria A, with the recommended circuit
	IEC 61000-4-3, Perf. Criteria A, with the recommended circuit
	IEC 61000-4-4, Perf. Criteria A, with the recommended circuit
	IEC 61000-4-5, Perf. Criteria A, with the recommended circuit
	IEC 61000-4-6, Perf. Criteria A, with the recommended circuit
	IEC 61000-4-8, Perf. Criteria A, with the recommended circuit

Pin Out Specifications

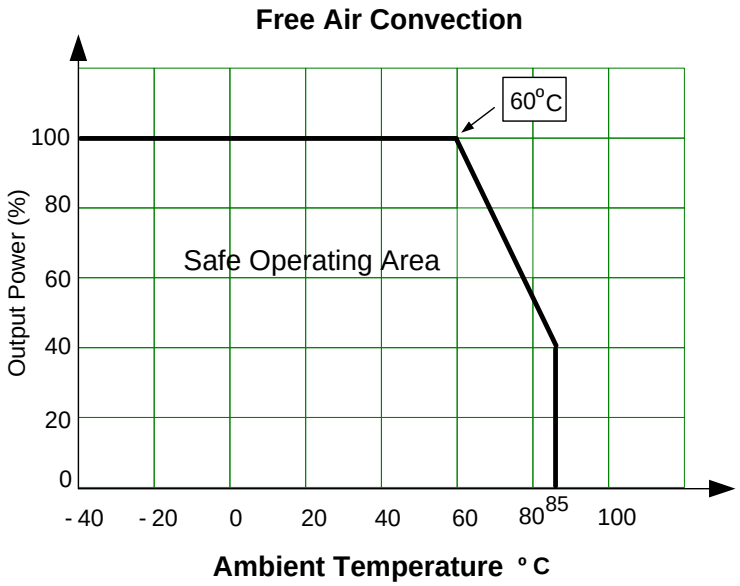
Pin	Single
1	+V input
2	GND
3	+V output

Dimensions

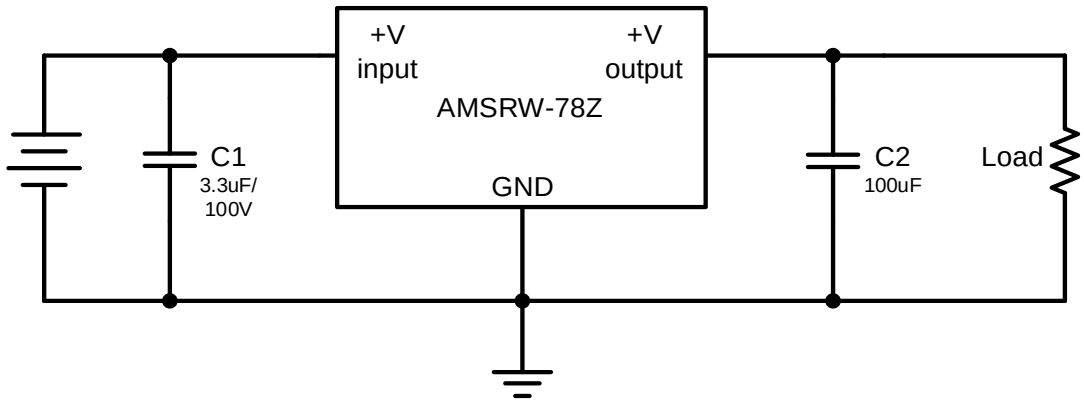


Unit: mm(inch)
Case tolerance: ±0.5(0.02)
Pin tolerance: ±0.05(0.002)
Pin pitch and length tolerance: ±0.35(0.014)
Pin to case tolerance: ±0.5(0.02)

Derating

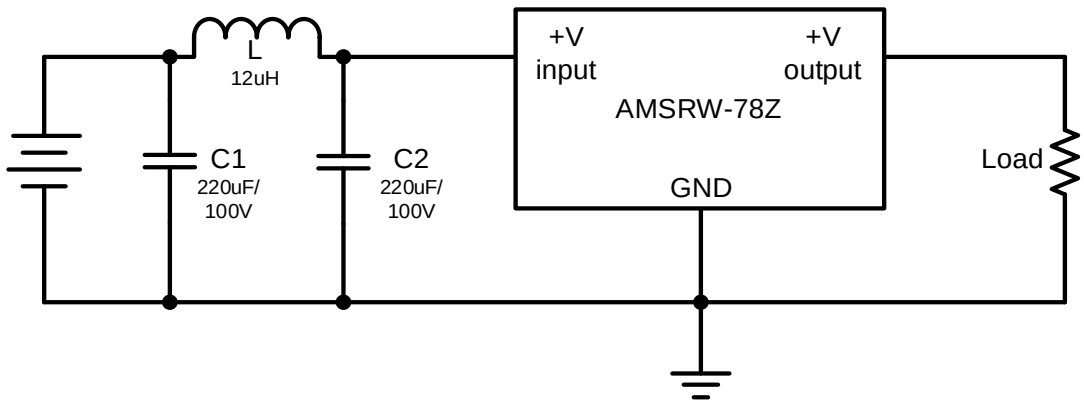


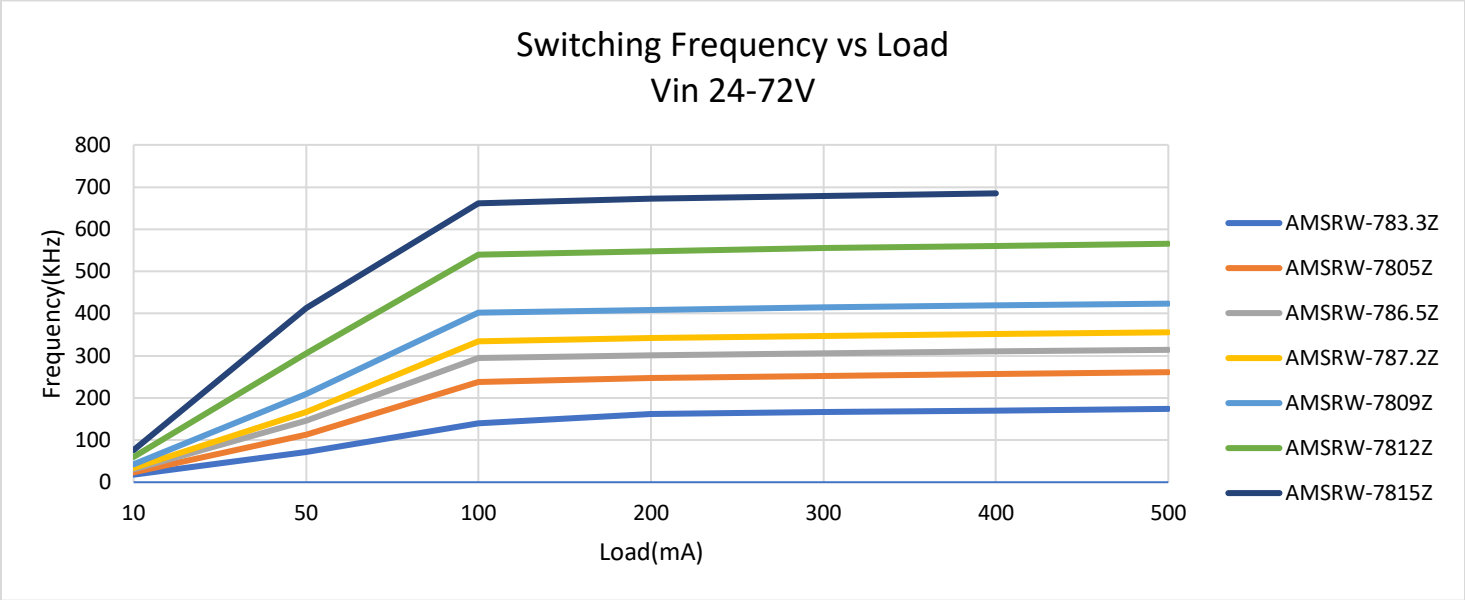
Typical application circuit



C1 is required if Vin>50V

Recommended EMI/EMS circuit





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 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 the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.