

## 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 -40°C to +85°C
- Pin Compatible with multiple manufacturers
- Continuous Short Circuit Protection



### 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.

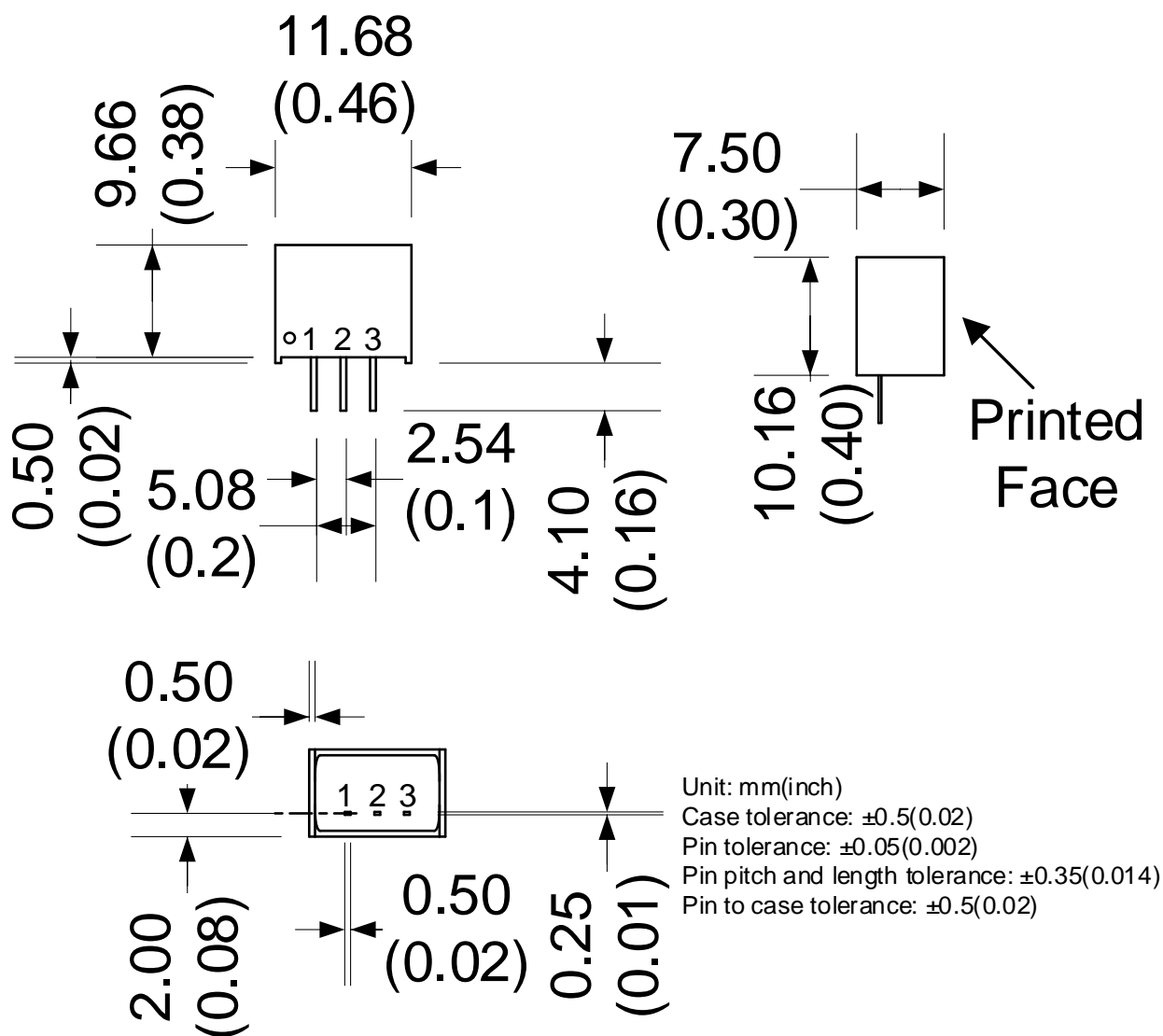
### Safety Specifications

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

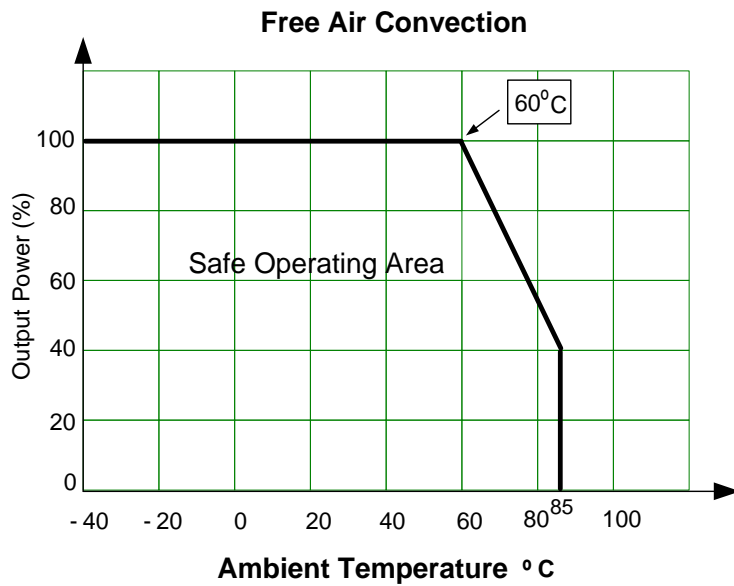
### Pin Out Specifications

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

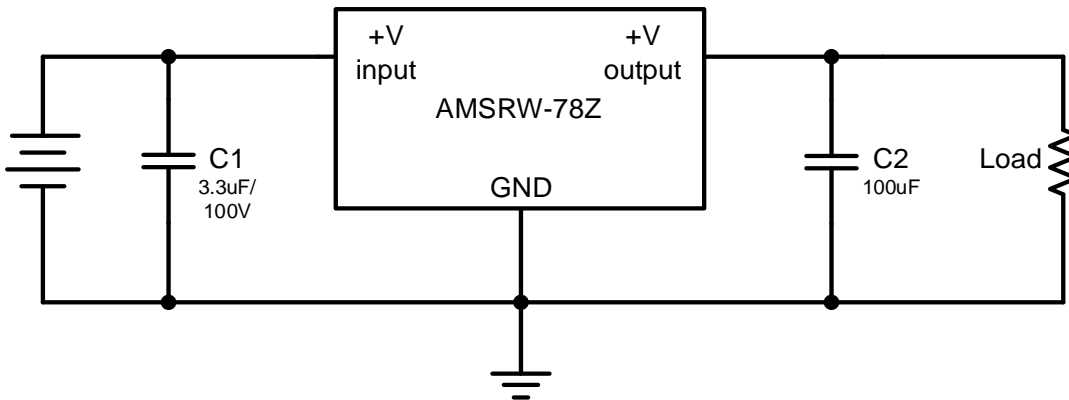
### Dimensions



## Derating

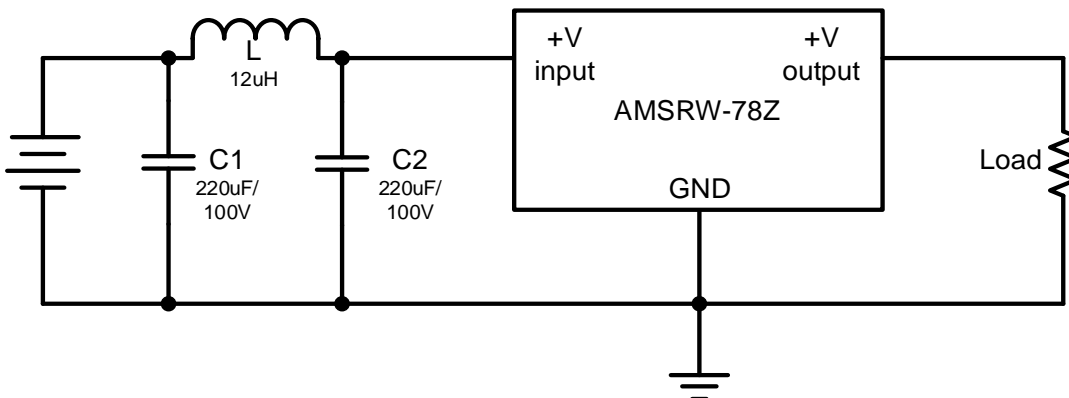


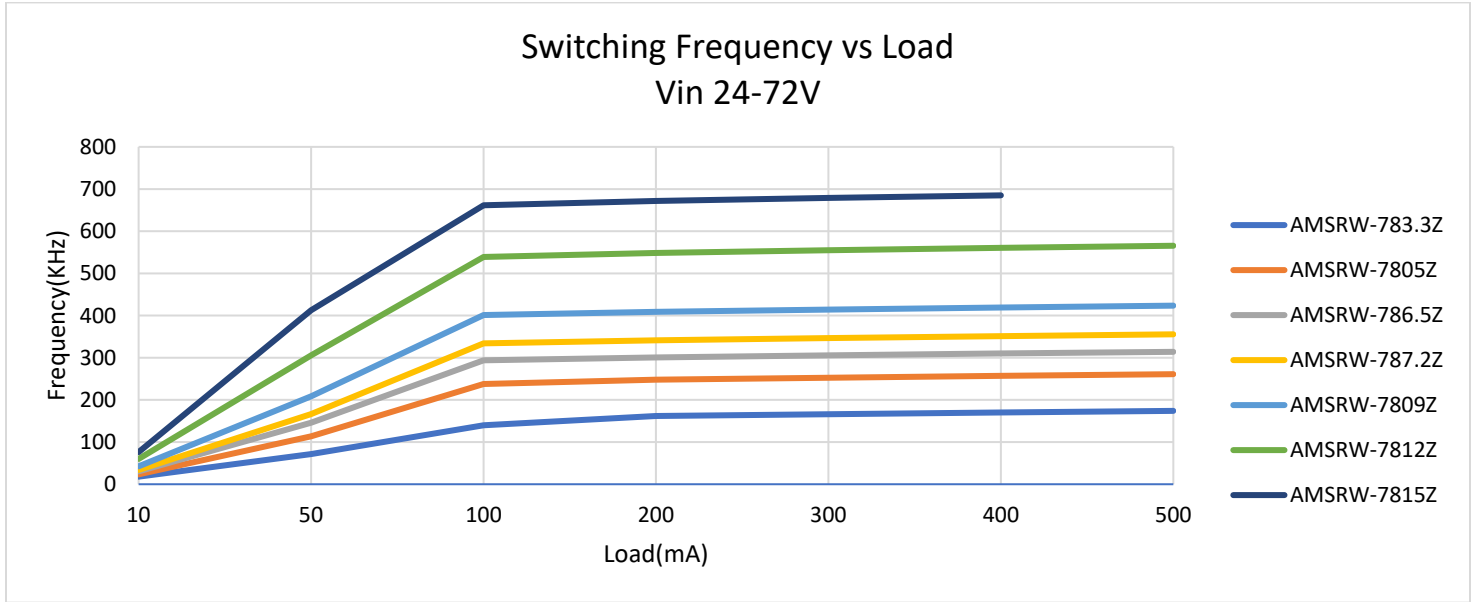
## Typical application circuit



C1 is required if  $V_{in} > 50V$

## Recommended EMI/EMS circuit





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