A78A-1.0J Series
Switching Regulator 1000mA Converter

Features

- Switching regulator, Non isolated dc-dc converter
- Pin out compatible with LM78xx linear
- Efficiency up to 94.5%
- -40°C to +90°C Operating Temperature
- Continuous short circuit protection
- EN62368 safety approval

Application

- Regulator requires
- MCU application
- Telecom application

Selection Guide

Part number	Input voltage	Output voltage	Output current @ full load	Input current @ no load	Ripple & Noise (Max.)	Efficiency Min. Input/Max. Input	Capacitive load[3] (max.)
A78A1.8-1.0J	4.75-26 VDC	1.8 VDC	1000 mA	10mA	50mVp-p [1]	84/74%	470µF
A78A3.3-1.0J	4.75-32 VDC	3.3 VDC	1000 mA	12mA	50mVp-p	89/81%	470µF
A78A5.0-1.0J	6.5-32 VDC	5.0 VDC	1000 mA	16mA	50mVp-p	92/84.5%	470µF
A78A6.5-1.0J	8-32 VDC	6.5 VDC	1000 mA	20mA	75mVp-p [2]	93.5/87.5%	470µF
A78A12-1.0J	15-32 VDC	12 VDC	1000 mA	23mA	100mVp-p	94/90.5%	470µF
A78A15-1.0J	18-32 VDC	15 VDC	1000 mA	25mA	100mVp-p	94.5/91.5%	330µF

1. [1] If you use 26V input and the loading is less 5%, the R&N will be 100mVp-p (max.).
2. [2] With a 4.7µF/50V X7R MLCC, the R&N will be 50mVp-p (max.).
3. [3] The capacitive load is test by minimum input and constant resistive load.
4. All specifications valid at nominal input voltage, full load and 25℃ after warm-up time unless otherwise stated.

Part Number

A78A1.8-1.0 J

Output voltage Output current

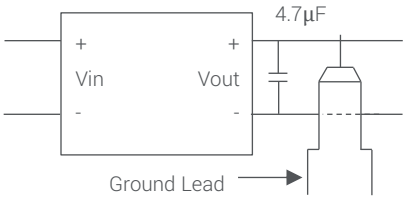
CTC is the professional and one among world's leading manufacturers of DC-DC/ AC-DC converters.
The products were used in Computers, Industrial controls, Medical equipment, Transportation, EV, ECO-power, Aero-space application and communication.

Specifications

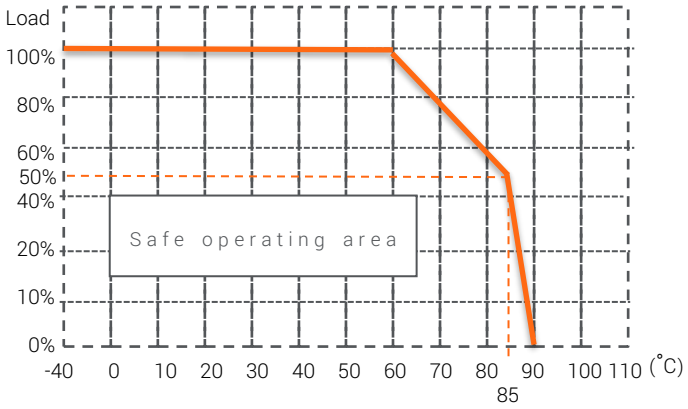
	Parameter	Conditions	Min.	Typ.	Max.	Unit
Input	Input voltage range			4.75-32Vdc		
Output	Voltage accuracy		-3		+3	%
	Line voltage regulation	LL to HL at full load		0.2	0.4	%
	Load voltage regulation	10% to 100% full load		0.4	0.6	%
	Minimum load			1		%
	Operating frequency	Vin=nominal Volt		500		KHz
Environment	Operating temperature	with de-rating	-40		90	℃
	Storage temperature		-55		125	℃
	Relative Humidity				95	%RH
	Temperature coefficient			0.015 %/℃		
	Max. case temperature				105	℃
	Vibration			MIL-STD-202G		
Function	Short-circuit protection			Continuous, automatic recovery		
	Safety approvals			EN62368-1		
	MTBF (MIL-HDBK-217F)		13300			kHrs
Physical	Dimension			11.6x7.6x10.2 mm		
	Weight			1.9		g
	Cooling method			Free air convention		
	Case material			Non conductive black plastic		

1. All specifications valid at 24V input, full load and 25℃ after warm-up time unless otherwise stated.
2. The product information and specifications are subject to change without prior notice.

Measure Method

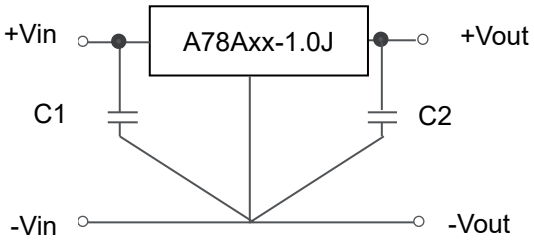


Derating Curve

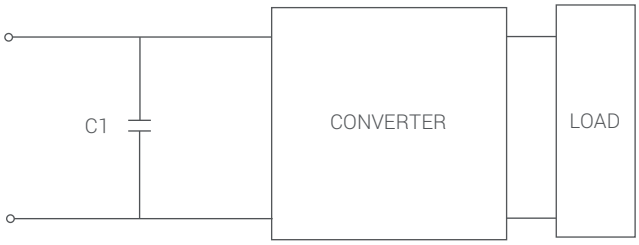


Ambient temperature with natural convection

Standard Appliction Circuit



EFT and surge external input capacitor required



C1
1500μF/ 50V

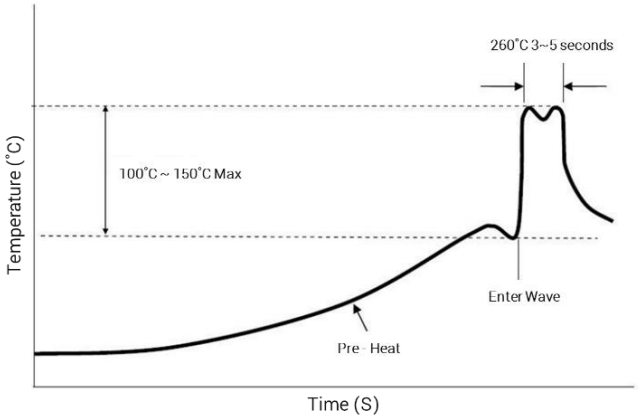
SIP Information

Storage and Handling

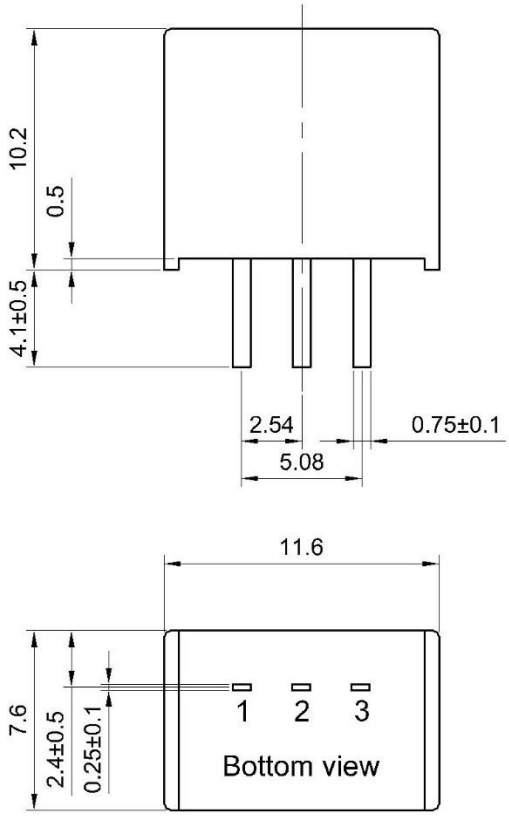
The shelf life will be a minimum of 12 months, when stored at the following conditions: < 40° C, < 90% relative humidity.

Wave Soldering Profile

The wave solder profile is measure on lead temperature. And, need keep the solder parts internal temperature less than about 210°C. For the period of solder dwell time should be 3 - 5 seconds, and should not over than 10 second.



Mechanical Dimension & Pinning



Pin	Single
1	+Vin
2	GND
3	+Vout

Projection : Third angle projection
Unit : mm
Tolerance : ±0.25mm

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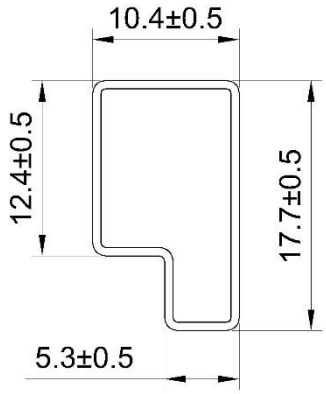
Package



UNIT:mm
1 Tube = 42 pcs
Length : 520±2mm

Footprint