



LC78_3.0 series

Wide Input, Non-Isolated & Regulated, Single Output

Switching Regulator

- ⊕ High performance switching regulator
- ⊕ Low profile ($L \times W \times H = 11.6 \times 7.5 \times 10.2\text{mm}$)
- ⊕ Wide 4.5V to 28V input voltage range

- ⊕ High efficiency up to 95%
- ⊕ Compatible with LM78 pin-out
- ⊕ Short circuit protection (SCP)
- ⊕ Low output ripple & noise

The Introducing our high-performance switching regulator series: LC78_3.0, featuring a low profile design with dimensions of L x W x H = 11.6 x 7.5 x 10.2mm. It offers a wide input voltage range from 4.5V to 28V, ensuring compatibility with various applications. Achieve high efficiency up to 95%, and enjoy compatibility with LM78 pin-out. Our regulator is equipped with short circuit protection (SCP) and ensures low output ripple and noise for reliable performance.



Common specifications

Short circuit protection:	Continuous, automatic recovery
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C (with derating)
Storage temperature range:	-55°C ~+125°C
Operating case temperature:	110°C MAX
Case thermal impedance:	70°C/W
Temperature coefficient:	-40°C to +85°C ambient 0.02%/°C MAX
Storage humidity range:	< 95%
MTBF (using MIL-HDBK-217F):	+25°C 1680x10 ³ hours +60°C 786x10 ³ hours
Packing quantities:	42pcs per Tube
Case material:	Non Conductive Black Plastic UL94-V0
Potting material:	Epoxy UL94-V0
Soldering profile:	265°C/10sec. MAX
Weight:	2.3g

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	full load			±3	%
Output current		0	3.0	A	
Output current limit			5.0	A	
Internal power dissipation			0.9		W
Line regulation	V _{in} = min. to max. at full load		50		mV
Load regulation	10% to 100% load		40		mV
Ripple + Noise	20MHz Bandwidth		150		mVpp
Dynamic load stability	100%↔50% load (50mA/uS)		±50		mV
Switching frequency		150			kHz
No load input current			250		uA
Thermal shutdown	Internal IC junction		150		°C
Max capacitance load			220		μF

Note:

- All specifications measured at TA = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
- Only typical models listed. If you need other model, please confirm the power, input voltage and output voltage, and then phone us.

Example:

LC78_05-3.0

LC78 = Series; 05 = 5Vout; 3.0 = 3.0A output current

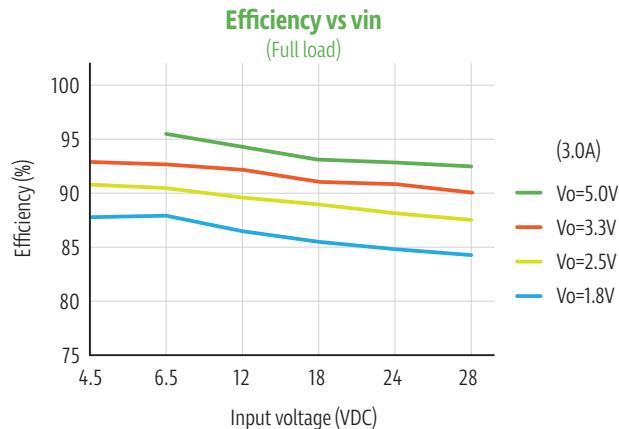
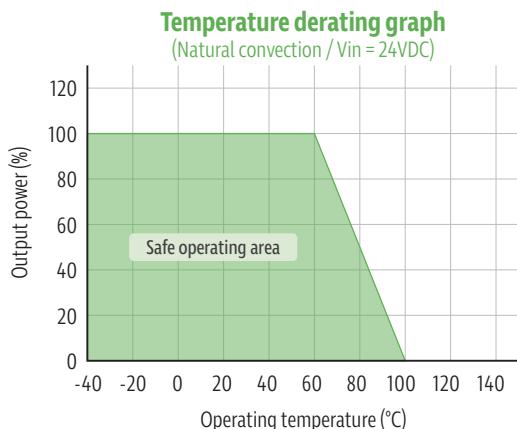
Product Selection Guide

Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]	Capacitive load [uF; max]
LC78_1.8-3.0	4.5-28	1.8	3.0	87	84	220
LC78_2.5-3.0	4.5-28	2.5	3.0	90	87	220
LC78_03-3.0	4.5-28	3.3	3.0	93	90	220
LC78_05-3.0	6.5-28	5	3.0	95	92	220

LC78_3.0 series

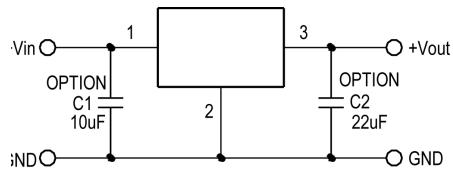
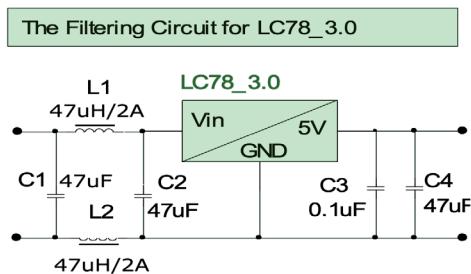
Wide Input Non-Isolated & Regulated, Single Output

Typical characteristics

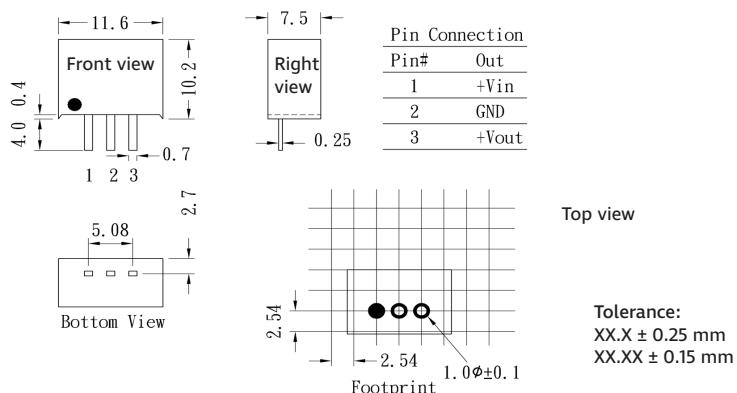


Filtering Circuit

Standard application circuit



Mechanical dimensions



Tube outline dimensions

