



## LC78\_3.0 series

Wide Input, Non-Isolated & Regulated, Single Output

### Switching Regulator

- ⊕ High performance switching regulator
- ⊕ Low profile (L\*W\*H = 11.6\*7.5\*10.2)
- ⊕ 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 of 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 <sup>3</sup> hours +60°C 786x10 <sup>3</sup> 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	Vin= min. to max. at full load		50		mV
Load regulation	10% to 100% load		40		mV
Ripple + Noise	20MHz Bandwidth			150	mVp-p
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:**

1. All specifications measured at TA = 25°C, humidity <75%, nominal input voltage and rated output load unless otherwise specified.
2. 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

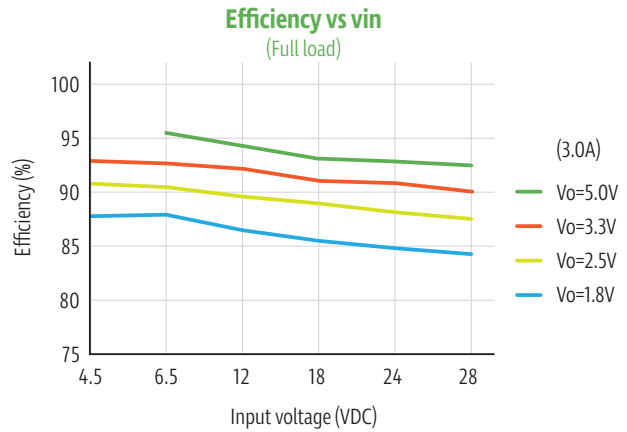
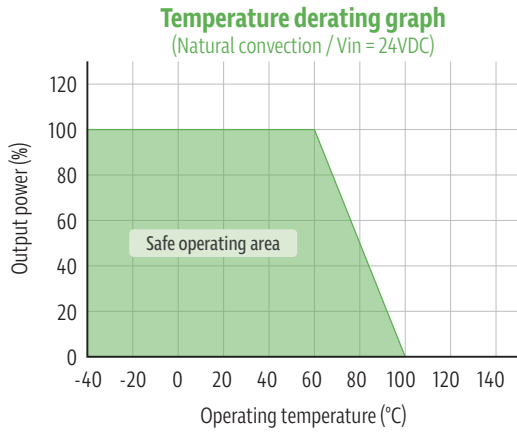
## Product Selection Guide

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

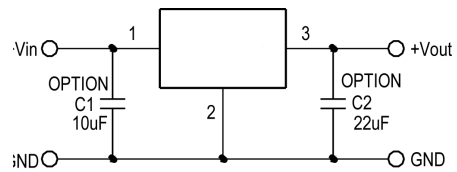
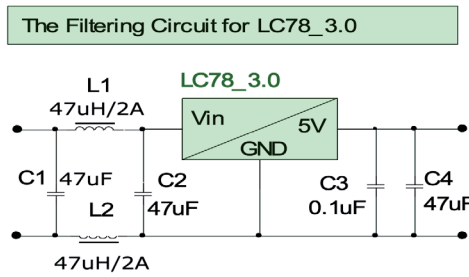
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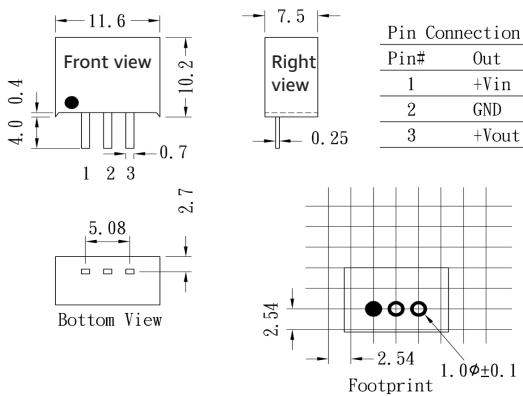
## Typical characteristics



## Filtering Circuit      Standard application circuit



## Mechanical dimensions



## Tube outline dimensions

