



LMP78_1.5 Series

Wide Input Non-Isolated & Regulated, Single Positive/Negative Output

Switching Regulator (POL)

- ⊕ High performance switching regulator
- ⊕ Low profile (L*W*H=11.6*7.5*10.2)
- ⊕ Wide 6V to 36V operating input range
- ⊕
- ⊕ Compatible with LM78 pin-out
- ⊕ Short circuit protection (SCP)
- ⊕ Efficiency up to 90%
- ⊕ Low output ripple/noise

The LMP78_1.5 series high efficiency switching regulators are ideally suited to replace LM78xx linear regulators and are pin compatible.

Model selection:
LMP78_yy-pp
 LC=Series; yy=Vout; pp=output current
Example:
LMP78_05-1.5
 LMP=Series; yy= 5Vout; pp=1.5A



Common specifications	
Short circuit protection:	Continuous, automatic recovery
Temperature rise at full load:	40°C MAX
Cooling:	Free air convection
Operation temperature range:	-40°C~+85°C
Storage temperature range:	-55°C ~+125°C
Lead temperature:	300°C MAX, 1.5mm from case for 10 sec
Operating case temperature:	110°C TYP
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 1000x10 ³ hours +40°C 500x10 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			1.5		A	
Output shorted current limit	Vout= OVDC		3.0		A	
Internal power dissipation			1		W	
Line regulation	Vin= min. to max. at full load			0.4	%	
Load regulation	0% to 100% load		80		mV	
Ripple + Noise	20MHz Bandwidth			60	mVp-p	
Dynamic load stability	100%-50% load		±150		mV	
Switching frequency				600	KHz	
Thermal shutdown	Internal IC junction		150		°C	
Max capacitance load				470	µF	

Note:

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

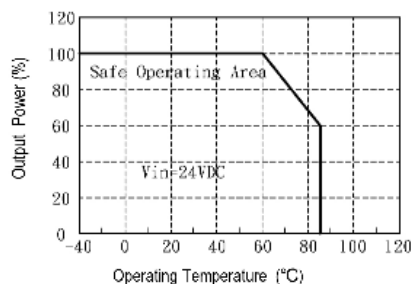
Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]	Max. Capacitive load [µF]
LMP78_03-1.5	6-36	3.3	1.5	86	84	470
LMP78_05-1.5	8-36	5	1.5	90	88	470

LC78_1.5 Low Cost Series

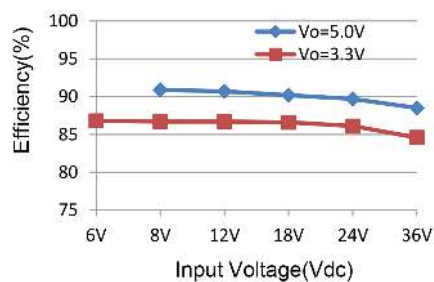
Wide Input Non-Isolated & Regulated, Single Positive/Negative Output

Typical characteristics

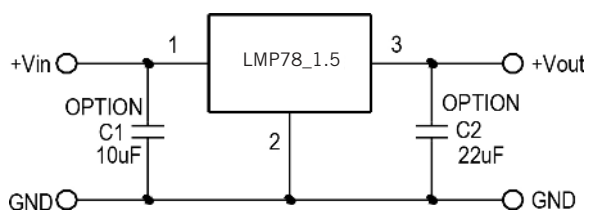
Derating Graph (Air convection 65LFM)



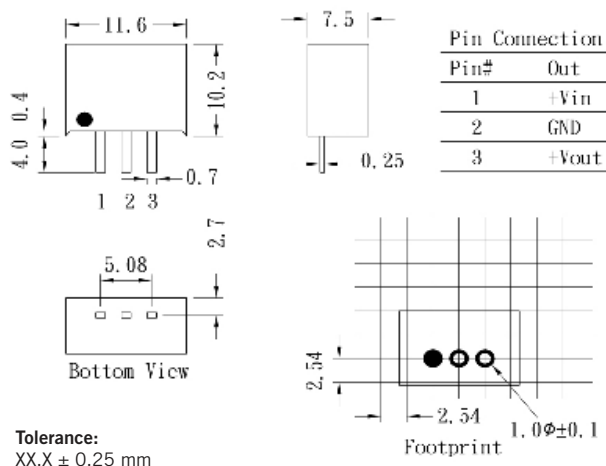
Efficiency Vs Vin (Full Load)



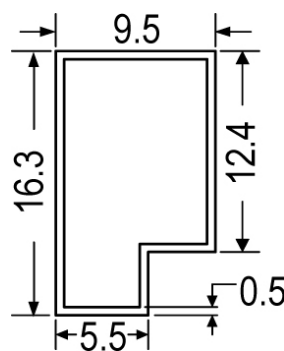
Standard application circuit



Mechanical dimensions/footprint



Tube outline dimensions



Tolerance:
XX.X ± 0.5 mm

Note:
L=520 ± 2 mm
Devices per tube quantity: 42 PCS