



LMP78_1.0 Series

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

Switching Regulator (POL)

- ⊕ Internal transient voltage protection
- ⊕ Low profile (L*W*H=11.6*6.0*10.2)
- ⊕ Wide 4.5V to 42V operating input range
- ⊕ Compatible with LM78 pin-out
- ⊕ Short circuit protection (SCP)
- ⊕ Special outputs available from 1.2V to 15V
- ⊕ Low ripple/noise and efficiency up to 97%
- ⊕ Low quiescent current (no load) 200uA typ.

The LMP78_1.0 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_05-1.0
 LMP=Series; yy= 5Vout; pp=1.0A



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 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 2844x10 ³ hours +71°C 2088x10 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:	1.5g

Output specifications						
Item	Test conditions	Min	Typ	Max	Units	
Output voltage accuracy	Full load			±2	%	
Output current			1.0		A	
Output shorted current limit	Vout= 0VDC			2.0	A	
Internal power dissipation			0.7		W	
Line regulation	Vin= min. to max. at full load			0.4	%	
Load regulation	0% to 100% load			0.6	%	
Ripple + Noise	20MHz Bandwidth		30	60	mVp-p	
Dynamic load stability	100%-50% load			±150	mV	
Switching frequency			600		KHz	
Quiescent current	Vin=min. to max. at 0% load			250	uA	
Thermal shutdown	Internal IC junction		150		°C	
Max capacitance load				470	uF	

Note:

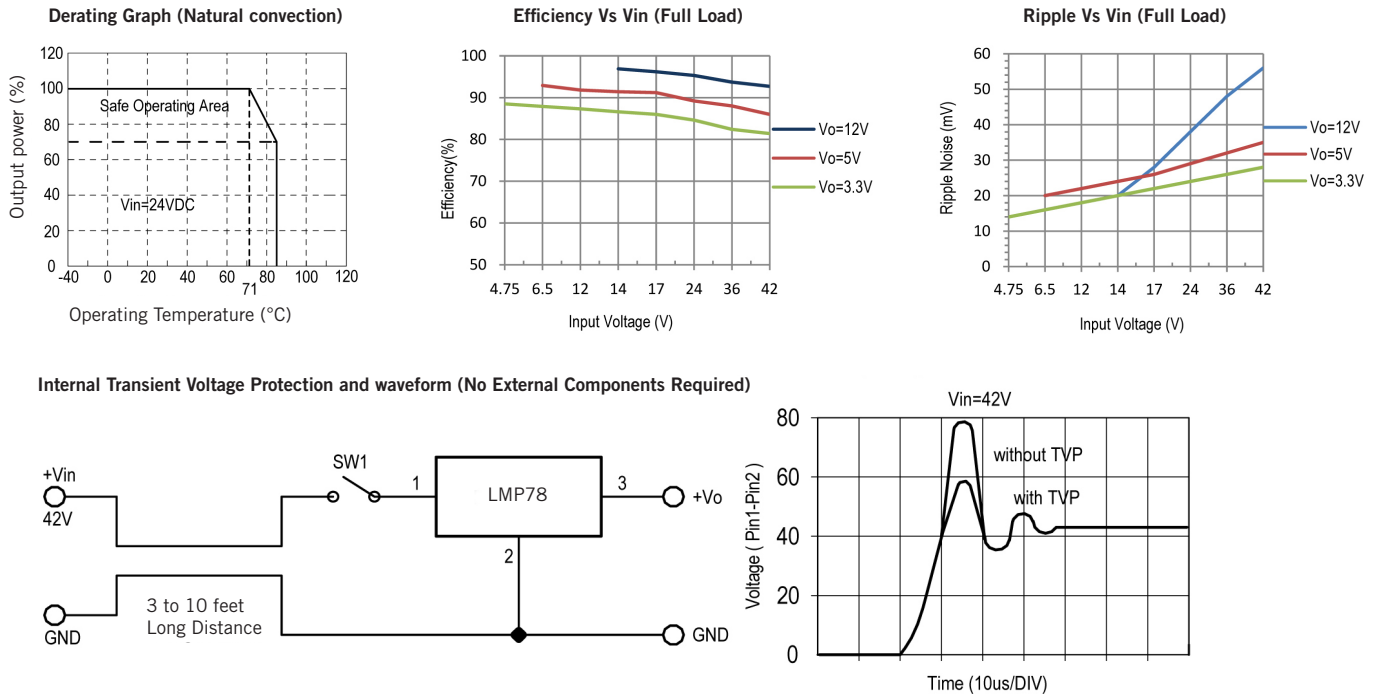
1. All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.

Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]	TVP limited [Vp-p]	Package
LMP78_1.2-1.0	4.5-42	1.2	1.0	72	63	55	SIP3
LMP78_1.5-1.0	4.5-42	1.5	1.0	77	68	55	SIP3
LMP78_1.8-1.0	4.5-42	1.8	1.0	80	71	55	SIP3
LMP78_2.5-1.0	4.5-42	2.5	1.0	85	77	55	SIP3
LMP78_03-1.0	4.75-42	3.3	1.0	88	81	55	SIP3
LMP78_05-1.0	6.5-42	5	1.0	93	86	55	SIP3
LMP78_6.5-1.0	8-42	6.5	1.0	93	88	55	SIP3
LMP78_09-1.0	11-42	9	1.0	95	91	55	SIP3
LMP78_12-1.0	14-42	12	1.0	97	93	55	SIP3
LMP78_15-1.0	17-42	15	1.0	97	93	55	SIP3

LC78_1.0 Low Cost Series

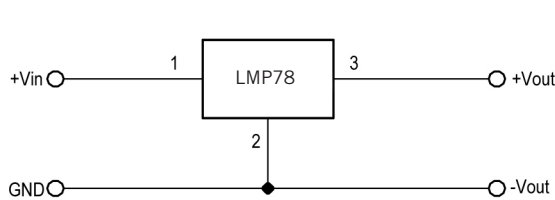
Wide Input Non-Isolated & Regulated, Single Positive/Negative Output

Typical characteristics

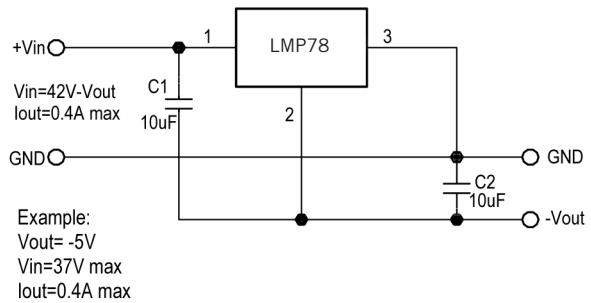


Standard application circuit

General Application

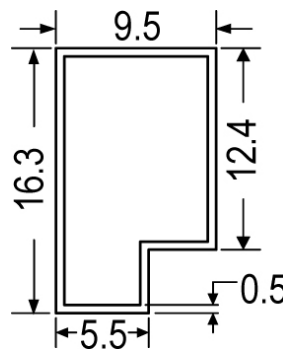
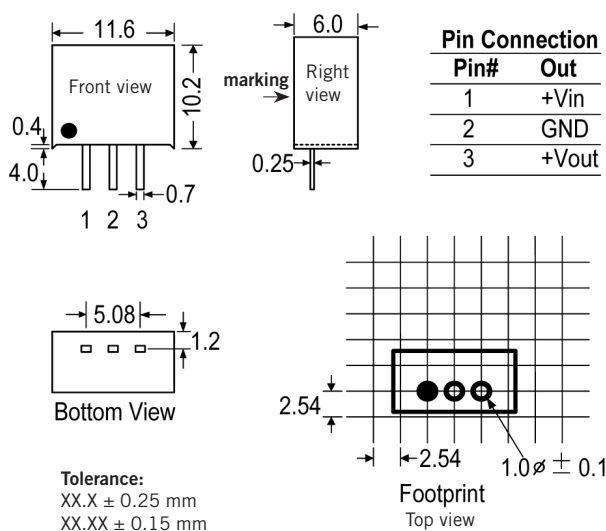


Negative Output Application (1.2V-15V Modes)



Mechanical dimensions/footprint

Tube outline dimensions



Tolerance:
 XX.X ± 0.5 mm

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