



LCW78_2.0 Cost effective 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 36V operating input range
- ⊕ Efficiency up to 94%
- ⊕ Compatible with LM78 pin-out
- ⊕ Short circuit protection (SCP)
- ⊕ Low output ripple & noise

The LCW78_2.0 series cost effective high efficiency switching regulators are ideally suited to replace LM78xx linear regulators and are pin compatible.

Example:
 LCW78_05-2.0
 LCW= Series; 05= 5Vout; pp=2.0A



Common specifications	
Short circuit protection:	Continuous, automatic recovery
Cooling:	Free air convection
Operation temperature range:	-40°C~+100°C
Storage temperature range:	-55°C ~+125°C
Operating case temperature:	105°C MAX
Temperature coefficient:	0.02%/°C MAX
Storage humidity range:	< 95%
Soldering profile:	265°C/10sec. max
MTBF (using MIL-HDBK-217F):	+25°C: 1380x10 ³ hours +60°C: 655x10 ³ hours
Packing quantities:	42pcs per Tube
Case material:	Non Conductive Black Plastic UL94-V0
Potting material:	Epoxy UL94-V0
Weight:	2.3g

Output specifications						
Item	Test conditions	Min	Typ	Max	Units	
Output voltage accuracy	Full load		±3		%	
Output current		0		2	A	
Internal power dissipation			0.9		W	
Line regulation	Vin= min. to max. at full load		50		mV	
Load regulation	10% to 100% load		50		mV	
Output shorted current limit	Vout= 0VDC		1		A	
Ripple + Noise	20MHz Bandwidth			50	mVp-p	
Dynamic load stability	100% <-> 50% load (50mA/μs)		±100		mV	
Switching frequency			380		KHz	
Case Thermal Impedance			70		°C/W	
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.

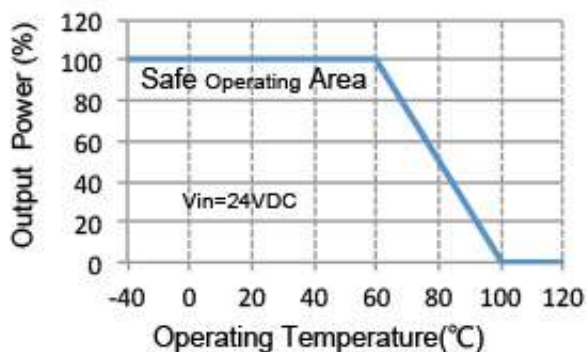
Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]	Max. capacitive load [μF]
LCW78_01-2.0	4.5-36	1.8	2.0	87	78	220
LCW78_02-2.0	4.5-36	2.5	2.0	89	82	220
LCW78_03-2.0	4.5-36	3.3	2.0	93	87	220
LCW78_05-2.0	6.5 - 36	5	2.0	94	90	220

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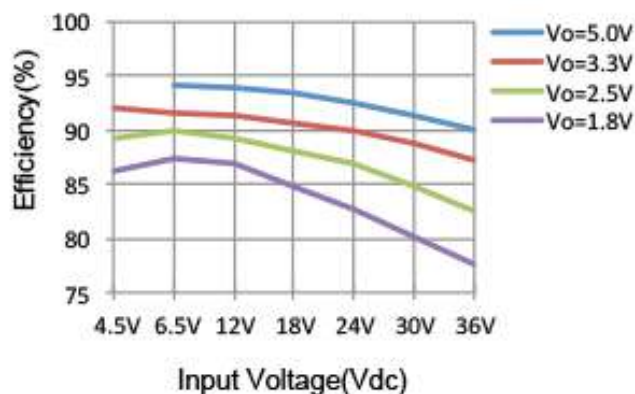
Typical characteristics

Derating graph (natural convection)

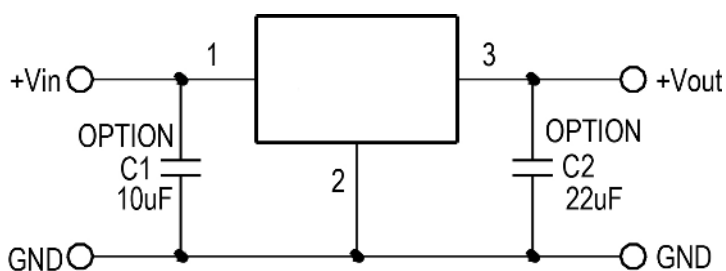


Efficiency

Vin vs Efficiency (full load)



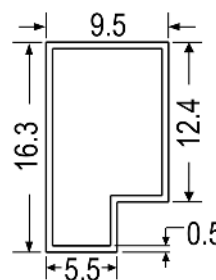
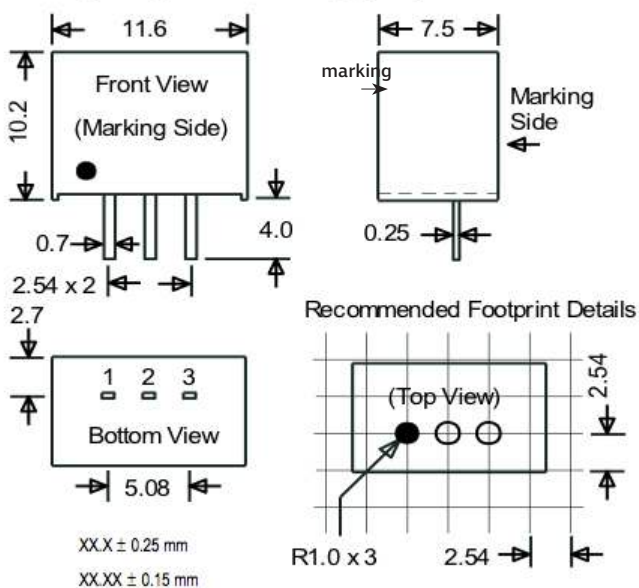
Standard application circuit



Mechanical dimensions and footprint

Tube outline dimensions

Package Style and Pinning (mm)



Note:
L=520 ± 0.5 mm
Devices per tub quantity: 42 PCS

Pin connections	
1	+Vin
2	GND
3	+Vout