

LCB78_0.5 Cost effective Series

Wide Input Non-Isolated & Regulated, Single Output



Switching Regulator

- ⊕ Low profile (L*W*H=11.6*6.0*10.2)
- ⊕ Wide 4.5V to 55V operating input range
- ⊕ Efficiency up to 95%
- ⊕ Compatible with LM78 Pin Out
- ⊕ Short circuit protection (SCP)
- ⊕ No heatsink required
- ⊕ Low ripple and noise
- ⊕ Low quiescent current (No Load) 200uA typ.

The LCB78_0.5 series cost effective high efficiency switching regulators are ideally suited to replace LM78xx linear regulators and are pin compatible.

Model selection:
LCB78_yy-pp
LCB=Series; ##=Vout; pp=output current
Example:
LCB78_05-0.5
LCB=Series; ##= 5Vout; pp=0.5A



Common specifications	
Short circuit protection:	Continuous, automatic recovery
Temperature rise at full load:	25°C MAX, 15°C TYP
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:	100°C MAX
Temperature coefficient:	-40°C to +85°C ambient 0.015%/°C TYP
Storage humidity range:	< 95%
MTBF (using MIL-HDBK-217F):	+25°C 2805x10 ³ hours +70°C 2054x10 ³ hours
Packing quantities:	42pcs per Tube
Case material:	Non Conductive Black Plastic UL94-V0
Potting material:	Epoxy UL94-V0
Weight:	1.3g

Output specifications						
Item	Test conditions	Min	Typ	Max	Units	
Output voltage accuracy	Vin= min. to max. at full load			±3	%	
Line voltage regulation	Vin= min. to max. at full load			0.4	%	
Load regulation	0% to 100% load			0.6	%	
Ripple + Noise	Vo=5.0VDC at 20MHz Bandwidth			30	mVp-p	
Dynamic load stability	100%-50% load			±100	mV	
Switching frequency			400		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.

Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]
LCB78_03-0.5	4.5-55	3.3	0.5	92	75
LCB78_05-0.5	6.5-55	5.0	0.5	95	82

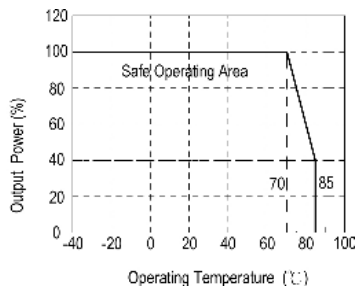
Add suffix "L" for 90° bend pins, for example: LCB78_03-0.5L

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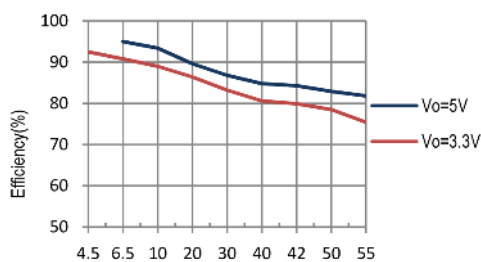
Wide Input Non-Isolated & Regulated, Single Output

Typical characteristics

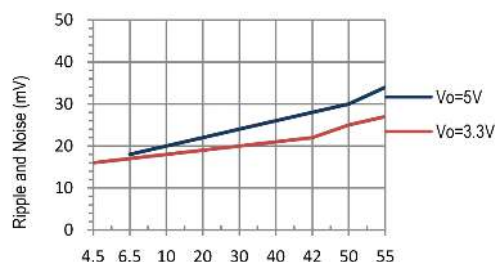
Derating graph (natural convection)



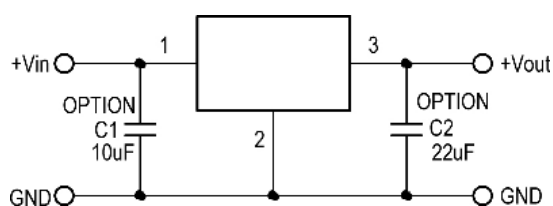
Efficiency Vs Vin (Full Load)



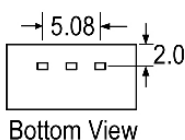
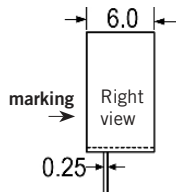
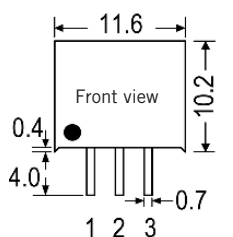
Ripple Vs Vin (Full Load)



Standard application circuit

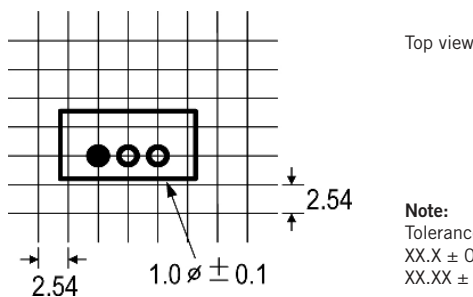


Mechanical dimensions



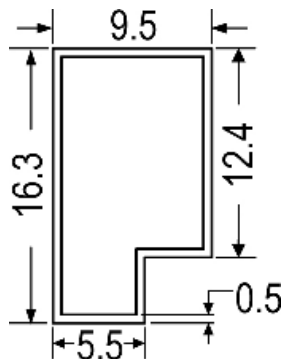
Pin Connection	
Pin#	Out
1	+Vin
2	GND
3	+Vout

Footprint details



Note:
Tolerance
XX.X ± 0.25 mm
XX.XX ± 0.15 mm

Tube outline dimensions



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

Bended pins:

