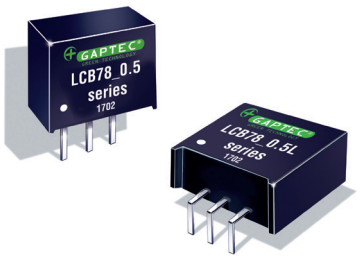
GAPTEC®
GREEN TECHNOLOGY

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 circut 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 2805x10³ hours +70°C 2054x10³ 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:
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.

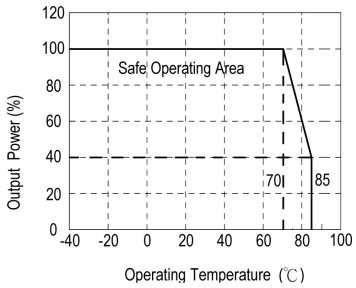
Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]
LCB78_03-0.5	4.5-55	3.3	0.5	92	75
LCB78_05-0.5	6.5-55	5.0	0.5	95	82

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

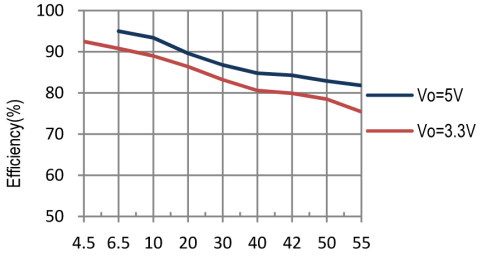
GAPTEC-Electronic GmbH & Co. KG
sales@gaptec-electronic.com – www.gaptec-electronic.com

Typical characteristics

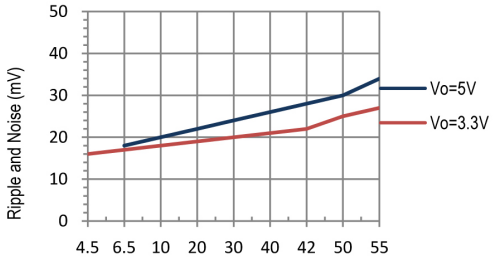
Derating graph (natural convection)



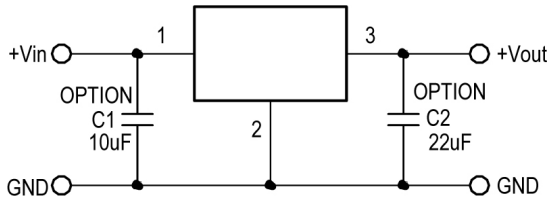
Efficiency Vs Vin (Full Load)



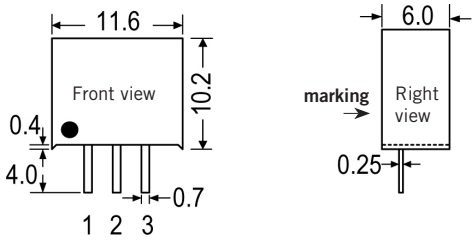
Ripple Vs Vin (Full Load)



Standard application circuit

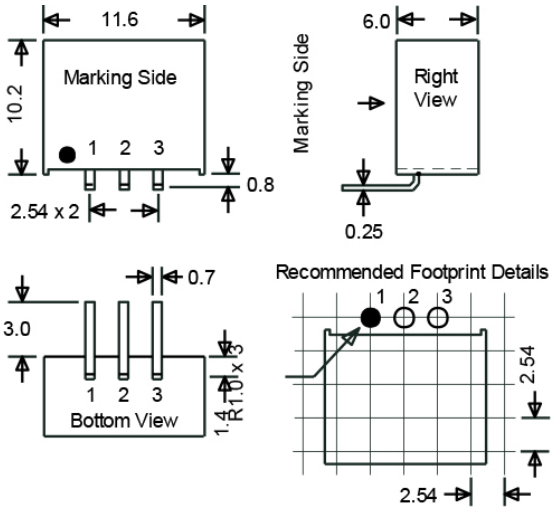


Mechanical dimensions

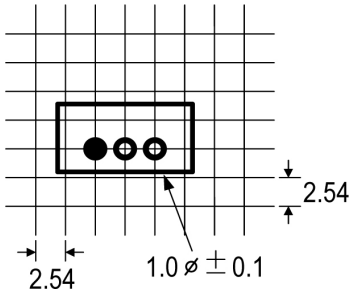


Pin Connection	
Pin#	Out
1	+Vin
2	GND
3	+Vout

Bended pins:

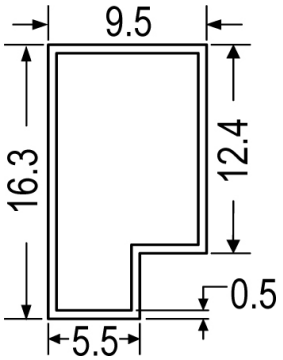


Footprint details



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