



LCN78_0.5 Cost effective Series

Wide Input Non-Isolated & Regulated, Single Output

Switching Regulator

- ⊕ High performance switching regulator
- ⊕ Low profile (L*W*H=11.6*6.0*10.2)
- ⊕ Wide 4.5V to 42V operating input range
- ⊕ Efficiency up to 96%
- ⊕ Compatible with LM78 pin-out
- ⊕ Short circuit protection (SCP)
- ⊕ Low output ripple & noise

The LCN78_0.5 series cost effective high efficiency switching regulators are ideally suited to replace LM78xx linear regulators and are pin compatible.

Model selection:

LC78_yy-pp
LC=Series; ##=Vout; pp=output current

Example:

LCN78_05-0.5
LCN=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~+100°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
Temperature coefficient:	-40°C to +85°C ambient 0.02%/°C MAX
Storage humidity range:	< 95%
Soldering profile:	265°C /10sec. max
MTBF (using MIL-HDBK-217F):	+25°C 2000x10 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	Full load		±3		%	
Output current	10-500mA					
Output current limit				1	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			40	mVp-p	
Dynamic load stability	100%-50% load		±100		mV	
Switching frequency			500		KHz	
Case Thermal Impedance			70		°C/W	
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.

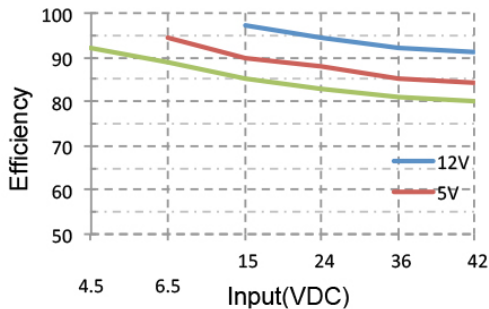
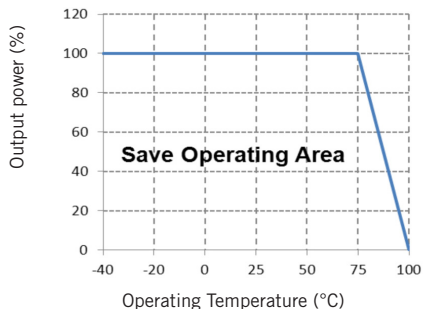
Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]	Max. capacitive load
LCN78_02-0.5	4.5-42	2.5	0.5	88	76	220µF
LCN78_03-0.5	4.5-42	3.3	0.5	92	80	220µF
LCN78_05-0.5	6.5-42	5	0.5	94	84	220µF
LCN78_06-0.5	8-42	6.5	0.5	95	86	220µF
LCN78_09-0.5	11-42	09	0.5	96	90	220µF
LCN78_12-0.5	15-42	12	0.5	97	91	220µF

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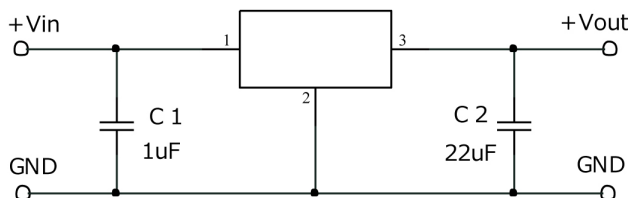
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Typical characteristics

Derating graph (natural convection)



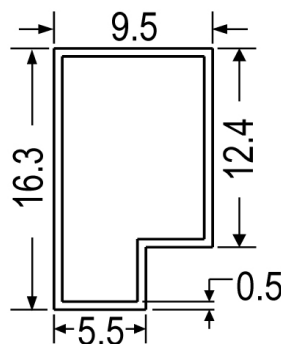
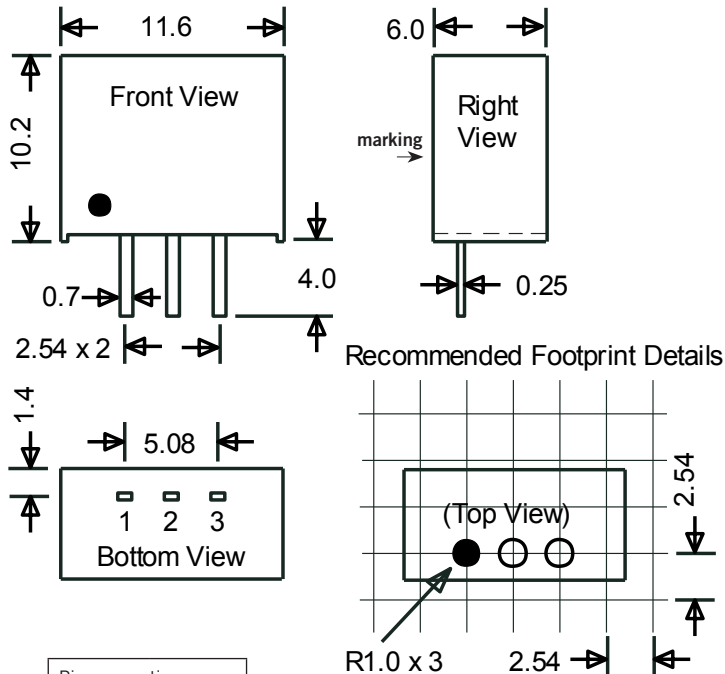
Standard application circuit



Note:
C1, C2 can be options

Mechanical dimensions and footprint

Tube outline dimensions



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

Pin connections	
1	+Vin
2	GND
3	+Vout

Note:
XX.X ± 0.5 mm
XX.XX ± 0.25 mm