



## LCW78\_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\*7.5\*10.2)
- ⊕ Wide 9V to 75V operating input range
- ⊕ Efficiency up to 94%
- ⊕ Compatible with LM78 pin-out
- ⊕ Short circuit protection (SCP)
- ⊕ Low output ripple & noise

The LCW78\_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:

LCW78\_05-0.5  
LCW=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 200x10 <sup>3</sup> 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	10-500mA					
Output load		2			%	
Output shorted current limit	Vout= 0VDC		1		A	
Internal power dissipation			0.7		W	
Line regulation	Vin= min. to max. at full load		1		%	
Load regulation	0% to 100% load		0.6		%	
Ripple + Noise	20MHz Bandwidth			40	mVp-p	
Dynamic load stability	100% <-> 50% load		±60		mV	
Switching frequency			500		KHz	
Case Thermal Impedance			70		°C/W	
Thermal shutdown	Internal IC junction		160		°C	
Max capacitance load				100	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.

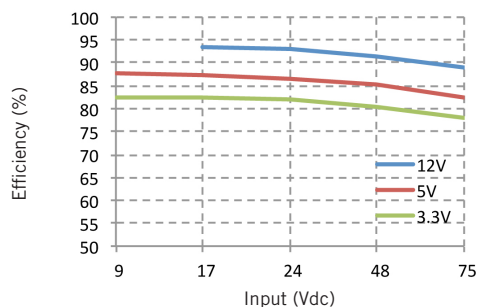
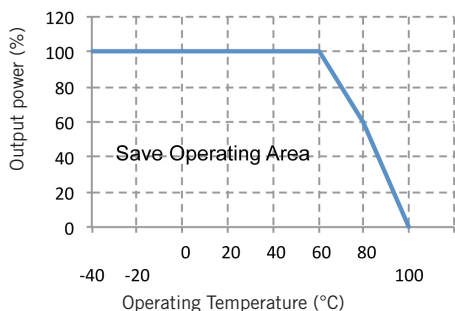
Part Number	Input Voltage Range [VDC]	Output Voltage [VDC]	Output Current [A]	Efficiency [Vin. min]	Efficiency [Vin. max]	Max. capacitive load
LCW78_03-0.5	9-75	3.3	0.5	82	78	100µF
LCW78_05-0.5	9-75	5	0.5	88	82	100µF
LCW78_06-0.5	9-75	6.5	0.5	91	84	100µF
LCW78_09-0.5	14-75	9	0.5	92	86	100µF
LCW78_12-0.5	17-75	12	0.5	94	89	100µF
LCW78_15-0.5	20-75	15	0.5	94	90	100µF

## LCW78\_0.5 Cost effective Series

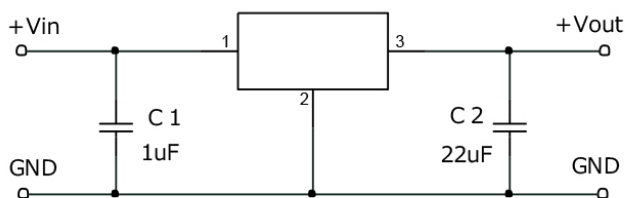
Wide Input Non-Isolated & Regulated, Single Output

### Typical characteristics

Derating graph (natural convection)

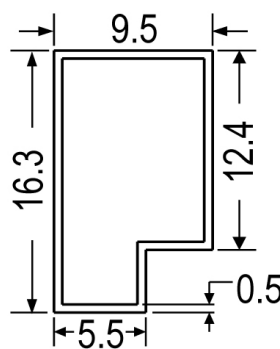
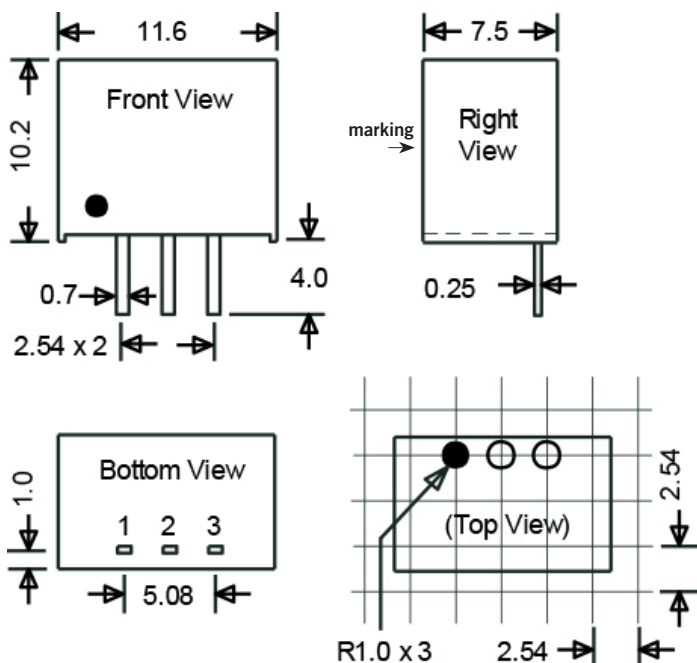


### Standard application circuit



### 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