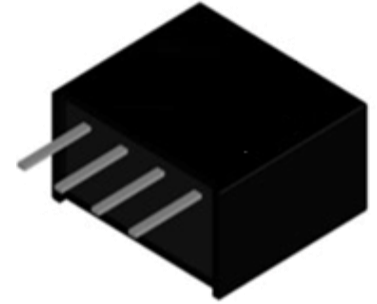


### Features

- 3 Watts output power
- 1:1 input voltage range
- 1-3KVdc isolation
- -40°C to +100°C Operating Temperature
- Efficiency to 90%
- SIP Package
- EN 60950
- EMC-EN55022/55024
- RoHS compliant

### Application

- Industrial control system
- Electric power instrumentation
- Tele-communication application



### Selection Guide

Part number	Input voltage	Output voltage (VDC)	Output current Max. (mA)	Efficiency <sup>(1)</sup>	Capacitive Load <sup>(2)</sup>
				Typ.	(max.)
M3L-0505J	5 VDC (±10%)	5	600	83	2000µF
M3L-0509J		9	334	86	1200µF
M3L-0512J		12	250	87	1000µF
M3L-0515J		15	200	88	820µF
M3L-1205J	12 VDC (±10%)	5	600	85	2000µF
M3L-1209J		9	334	88	1200µF
M3L-1212J		12	250	89	1000µF
M3L-1215J		15	200	89	820µF
M3L-1505J	15 VDC (±10%)	5	600	85	2000µF
M3L-1509J		9	334	88	1200µF
M3L-1512J		12	250	88	1000µF
M3L-1515J		15	200	88	820µF
M3L-2405J	24 VDC (±10%)	5	600	86	2000µF
M3L-2409J		9	334	89	1200µF
M3L-2412J		12	250	90	1000µF
M3L-2415J		15	200	90	820µF

1. The efficiency is test by nominal input and max. full load @25°C.
2. The capacitive load is test by minimum input and constant resistive load.

### Part Number

**M 3 L - 05 05 J**  

 ↓                      ↓  
 Input voltage      Output voltage

## Specifications

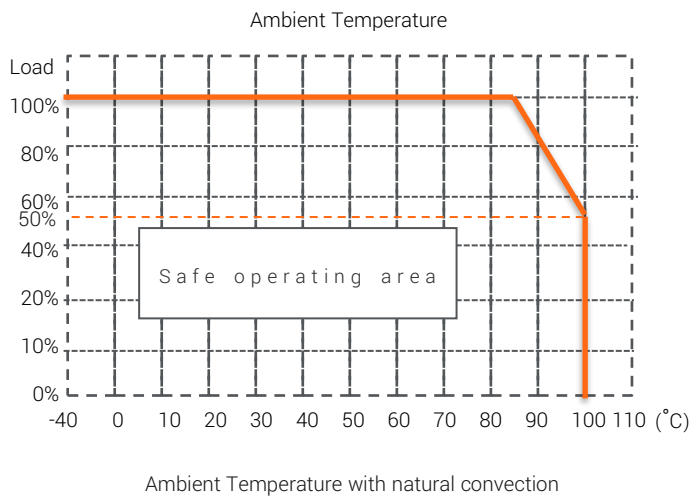
	Parameter	Conditions	Min.	Typ.	Max.	Unit
Input	Input voltage range		-10		+10	%
	Output	Voltage accuracy	Vout =5V		-3	±4
		Other		-2	±3	%
Minimum Load			0			%
Line Regulation		LL to HL at 100% load@1% of Vin			1.2	%
Load Regulation		Vout =5V		8	10	%
(10% to 100% Load)		Other		6	10	%
Ripple& noise		@ 20MHZ BW(@ Nominal Vin)		50	100	mVp-p
Operating frequency		Vin=nominal Volt	20	40		kHz
Environment	Operating temperature	Natural convection	-40		100	°C
	Storage temperature		-55		125	°C
	Maximum Case Temperature				115	°C
	Relative Humidity		5		95	%RH
Function	Isolation voltage (1sec.)	Standard			1	KVDC
		Add suffix "H"			2	KVDC
		Add suffix "H3"			3	KVDC
	Isolation Resistance		10			GΩ
	Isolation Capacitance			37	130	pF
	MTBF	25°C			4.395x10 <sup>6</sup>	Hours
Vibration			MIL-STD-202G			
Physical	Case material		Non-conductive plastic (UL94V-0)			
	Potting material		Silicone (UL94V-0)			
	Dimension		11.50(L)x10.20(W)x7.60(H) mm			
	Weight		2.2			g
EMC	EMI Conduction	EN55022		Class B		
	EMI Radiation	EN55022		Class B		

1. All specifications valid at nominal input voltage, full load and 25°C.
2. The product information and specifications are subject to change without prior notice.
3. Max. Capacitive Load is tested at nominal input voltage and full load.
4. In this datasheet, all test methods are based on our corporate standards.
5. All characteristics are for listed models, and non-standard models may perform differently. Please contact our technical support for more detail.
6. Please contact our technical support for any specific requirement.
7. "EMC filtering suggestion" is as following.

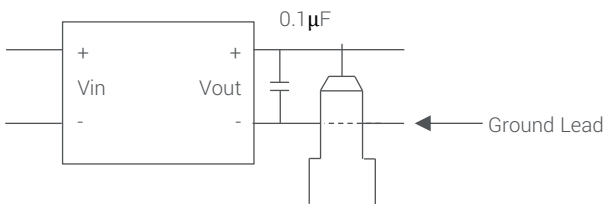
CTC is the professional and one among world's leading manufacturers of DC-DC/ AC-DC converters.

The products were used in Computers, Industrial controls, Medical equipment, Transportation, EV, ECO-power, Aero-space application and communication.

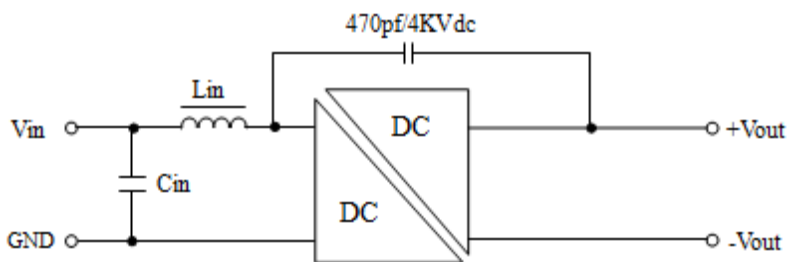
## Derating Curve



## Ripple & Noise Measure Method



## EMI filtering-suggestion for EN55032 Class B



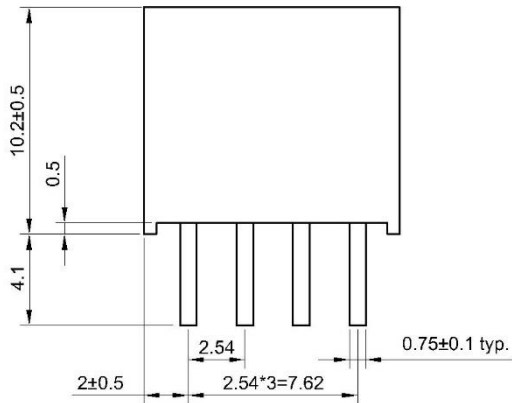
Product Range	Input Voltage	Inductance/ Capacitance (Lin/Cin)
M3L-J	5	10µH/4.7µF
	12	10µH/4.7µF
	15	10µH/2.2µF
	24	10µH/2.2µF

The External Filter for meet EN55032 Class B.

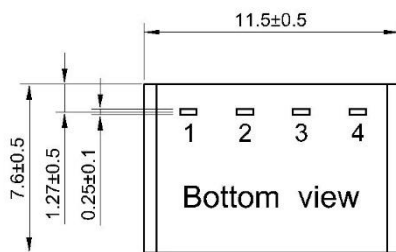
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## Mechanical Dimension & Pinning

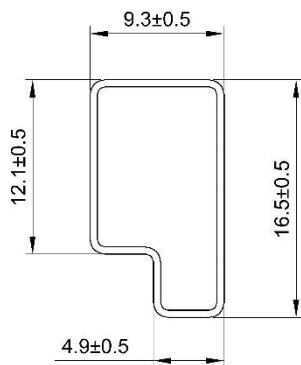


Pin	Single
1	-Vin
2	+ Vin
3	- Vout
4	+ Vout



Unit : mm  
Tolerance : ±0.25mm

## Package



UNIT:mm  
1 Tube = 42 pcs  
Length:520±2mm

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