

Features

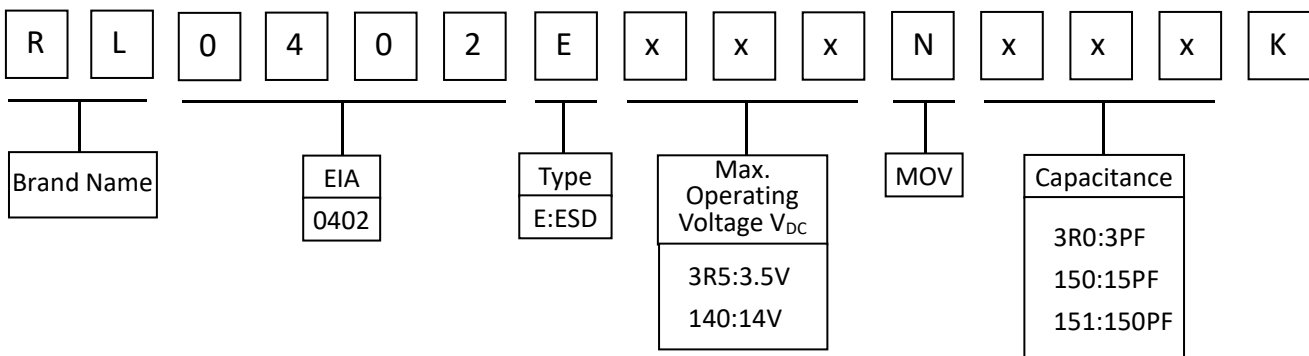
- EIA size:0402
- Variable capacitance
- Operating voltage: 3.5~40Vdc
- High surge suppress capability
- Bidirectional and symmetrical V/I characteristics
- Multilayer ceramic construction technology
- RoHS & Halogen Free (HF) compliant
- Operating temperature range: -55°C ~ +125°C
- Storage temperature range: 5°C ~ +40°C



Applications

- Used to Help Achieve Electromagnetic Compliance of End Products
- Provides On-Board Transient Voltage Protection for ICs, CMOS and MOSFET
- Suppression of Inductive Switching or Other Transient Events Such as EFT and Surge Voltage at the Circuit Board.
- Protection of Components and Circuits Sensitive to ESD Transients Occurring on Power supplies, Control and Signal Lines.

Part Number Code



Electrical Characteristics

Type Number	Varistor Voltage	Max. Allowable Voltage	Capacitance	Peak Pulse Current	Clamping Voltage	ESD Contact
	$V_{1mA}(V)$	$V_{DC}(V)$	$C_p(pF)$	$I_P(A)$	$V_C(V)$	ESD(KV)
RL0402E3R5N750K	6~10	3.5	50~100	3	20	6
RL0402E5R5N331K	10~16	5.5	≤330	15	32	6
RL0402E8R0N151K	14~22	8	≤150	10	44	6
RL0402E100N151K	15~25	10	≤150	10	50	6
RL0402E140N6R8K	20~30	14	3-9	1	60	6
RL0402E140N350K	20~30	14	≤35	5	60	6
RL0402E140N101K	20~30	14	100±30%	10	60	6
RL0402E180N5R0K	25~40	18	2~8	1	80	6
RL0402E180N240K	25~40	18	24±30%	5	80	6
RL0402E200N3R0K	30~45	20	2~5	1	90	6
RL0402E200N150K	30~45	20	≤15	2	90	6
RL0402E200N560K	30~50	20	≤56	5	100	6
RL0402E240N3R5K	40~60	24	2~5	1	120	6
RL0402E260N150K	50~70	26	10~20	5	140	6
RL0402E260N3R0K	50~70	26	1.5~4.5	1	140	6
RL0402E330N4R7K	80~120	33	3~7	1	240	6
RL0402E350N1R8K	110~160	35	1~3	1	320	6
RL0402E400N1R5K	180~240	40	1~2.5	0.5	440	6

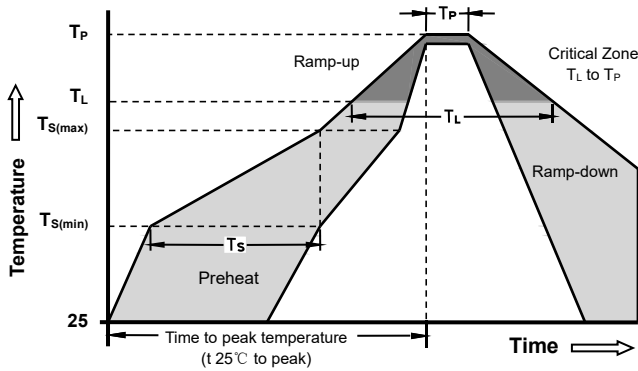
Environmental Performance

Item	Specifications	Test Condition
Bias Humidity	$V_V / V_V \leq \pm 10\%$	90%RH, 40°C, Working Voltage, 1000 hrs
Thermal Shock	$V_V / V_V \leq \pm 10\%$	-40°C to 85°C, 30min.cycle, 5 cycles
Full Load Voltage	$V_V / V_V \leq \pm 10\%$	Working Voltage, 85°C, 1000 hrs

General Technical Data

Response Time	<1ns	
Solderability	245±5 °C, 3±1sec	
Solder leach resistance	260±5 °C, 10±1sec	
Taping Package Storage Condition	Storage Temperature	5~40°C
	Relative Humidity	To 65%
	Storage Time	12 Months max

Soldering Parameters - Reflow Soldering (Surface Mount Devices)



Reflow Condition		Pb - Free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquids Temp T_L to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquids)	217°C
	- Time (min to max) (t_s)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		20 - 40 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max
Do not exceed		260°C

Precaution for soldering

Note that this product will be easily damaged by rapid heating, rapid cooling or local heating.
Do not give heat shock over 100°C in the process of soldering. We recommend to take preheating and gradual cooling

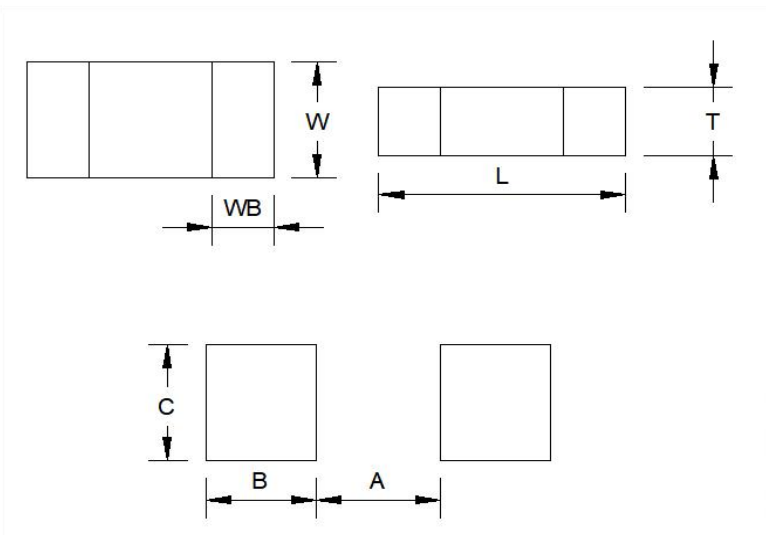
Soldering gun procedure

Note the follows, in case of using solder gun for replacement.
1)The tip temperature must be less than 280 for the period within 3 seconds by using soldering gun under 30W
2) The soldering gun tip shall not touch this product directly.

Soldering volume

Note that excess of soldering volume will easily get crack the body of this product.

Dimensions



Symbol	Millimeters	Inches
L	1.00±0.1	0.393±0.004
W	0.50±0.10	0.020±0.004
T_{max}	0.60	0.024
WB	0.25±0.15	0.010±0.0006
A	0.5	0.020
B	0.45	0.018
C	0.5	0.020

Recommended Soldering Pad Layout