

## Features

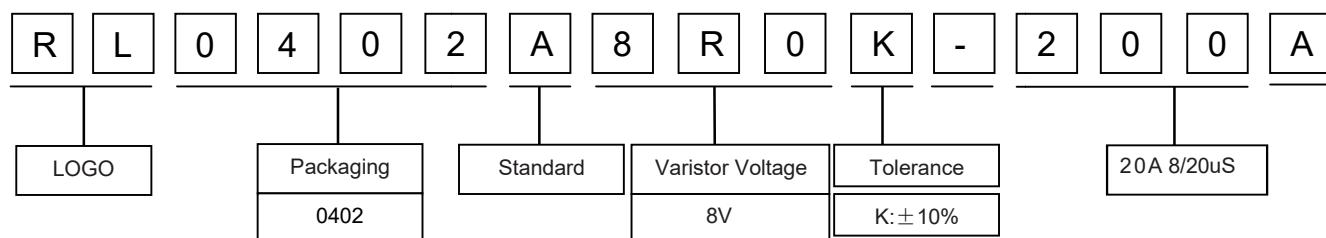
- EIA size:0402
- Variable capacitance
- MSL level 1
- Operating voltage: 5.6Vdc
- High surge suppress capability
- Bidirectional and symmetrical V/I characteristics
- Multilayer ceramic construction technology
- RoHS & Halogen Free (HF) compliant
- Operating temperature range: -55°C ~ +125°C
- Storage 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		IL(μA)	Max. Energy (10/1000μs)	Clamping Voltage (8/20μs)		Withstanding Surge Current (8/20μs)
		V <sub>1mA</sub> (V)	V <sub>AC</sub> (V)			(J)	I <sub>P</sub> (A)	
RL0402A8R0K-200A	7.5~10.5	4.0	5.6	≤30	0.05	5	21	20

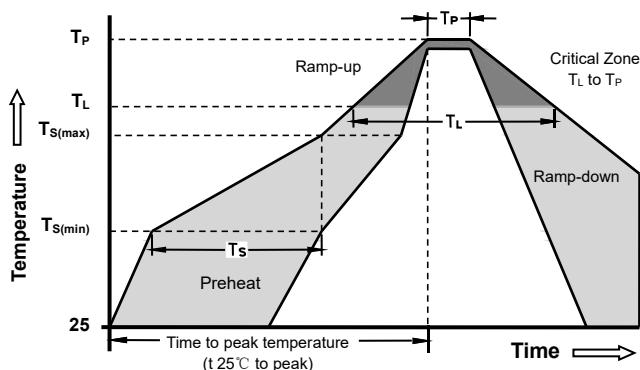
## Environmental Performance

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

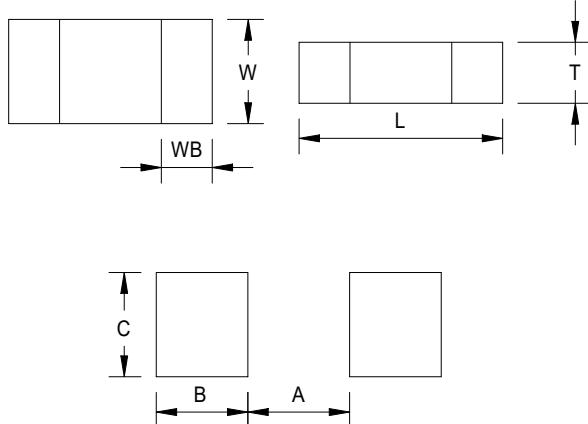
Note the follows, in case of using solder gun for replacement.

- 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±0.15	0.039
W	0.50±0.10	0.020
T <sub>max.</sub>	0.60	0.024
WB	0.25±0.15	0.010
A	0.5	0.020
B	0.018	0.0018
C	0.5	0.020

## Recommended Soldering Pad Layout

## Ordering Information

SIZE EIA (EIAJ)	RL0402A8R0K-200A	Reel size
Standard Packing Quantity (PCS/reel)	10000	7 inch