



Radial lead metal thin film chip resistors (the highest reliability and precision)

■ LRG series

Features

- Most reliable and the highest precision radial read thin film resistor
- The tightest resistance tolerance: $\pm 0.01\%$, the smallest temperature coefficient of resistance: $\pm 1 \text{ ppm}/^\circ\text{C}$

Applications

- Industrial measurement, electrical scales
- High precision sensors, medical electronics



◆ Part numbering system

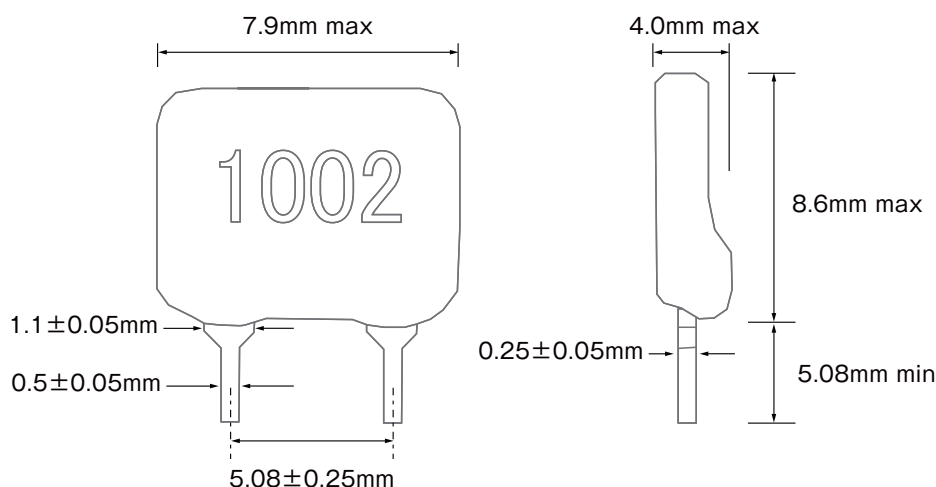
LRG 020 L - 1002 - L - T01

Series code: LRG Size: 020 Temperature coefficient of resistance: L Nominal resistance value: 1002 Resistance tolerance: L Packaging quantity: T01 (100pcs)

◆ Electrical Specification

Type	Lead pitch	Power ratings	Temperature coefficient of resistance (ppm/ $^\circ\text{C}$)	Resistance range(Ω) Resistance tolerance				Maximum voltage	Resistance value series	Operating temperature	Packaging quantity
	(mm)			$\pm 0.01\%$ (L)	$\pm 0.02\%$ (P)	$\pm 0.05\%$ (W)	$\pm 0.5\%$ (D)				
LRG020	5.08	0.3W	± 1 (K)	$100 \leq R \leq 100k$				250V	E-24, E-96	-55°C ~ 125°C	100pcs
			± 2 (L)								
			± 5 (V)								

◆ Dimensions



◆ Reliability specification

Test items	Condition (test methods (MIL-PRF-55342/JIS C5201-1))	Standard
Short time overload	2.5 x rated voltage,*1 5seconds	$\pm 0.05\% + 0.01\Omega$
Life (biased)	70°C, rated voltage,*1 90min on 30min off, 2000hours	$\pm 0.05\% + 0.01\Omega$
High temperature high humidity	85°C, 85%RH, 1/10 of rated power, 90min on 30min off, 2000hours	$\pm 0.05\% + 0.01\Omega$
Temperature shock	-65°C (15min) ~ 150°C (15min) 100cycles	$\pm 0.05\% + 0.01\Omega$
High temperature exposure	155°C, no bias, 1000hours	$\pm 0.05\% + 0.01\Omega$
Resistance to soldering heat	260 $\pm$ 5°C, 10 seconds (reflow)	$\pm 0.05\% + 0.01\Omega$

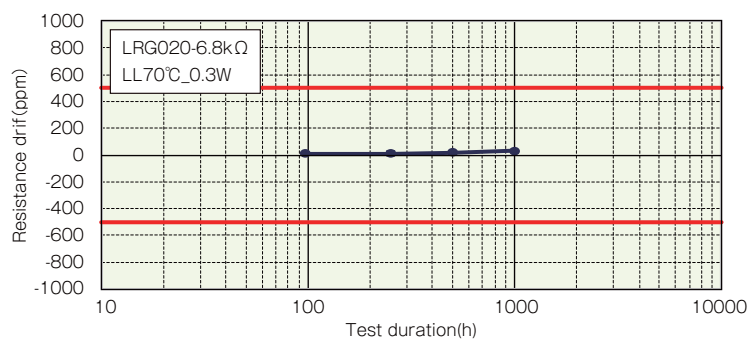
*1 Rated voltage is given by $E = \sqrt{R \times P}$

E= rated voltage (V), R=nominal resistance value(Ω), P=rated power(W)

If rated voltage exceeds maximum voltage /element, maximum voltage/element is the rated voltage.

◆ Reliability test data

○ Biased life test



Resistors with radial leads

LRG series

◆ Derating Curve

