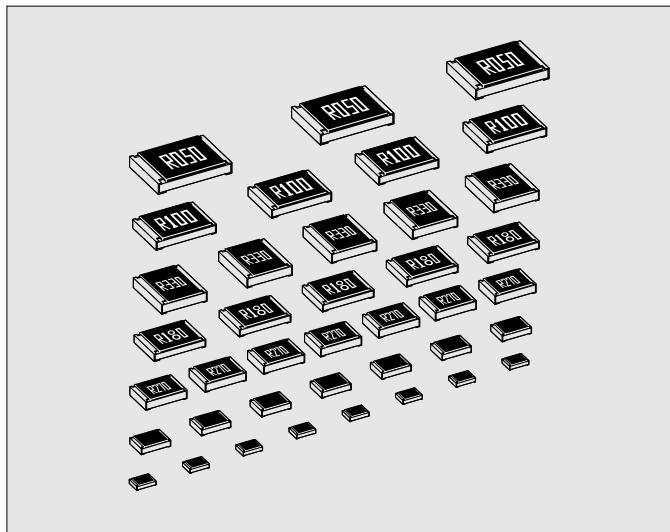
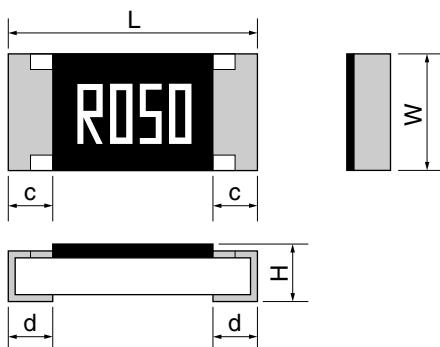


**RLC****●Features**

1. Most suitable for a detection of current in power source circuits, motor circuits, etc.
2. Raised Rated dissipation compared with RMC (except 2010,2512 size).
3. Halogen\*<sup>1</sup> and Antimony\*<sup>2</sup> free product
  - \*<sup>1</sup> Cl or Br $\leq$ 900ppm, Cl+Br $\leq$ 1500ppm
  - \*<sup>2</sup> Sb<sub>2</sub>O<sub>3</sub> $\leq$ 900ppm
4. Stability Class : 5%

**●Dimensions**

Rated resistance is marked with 4-digit on the over coating. (RLC20~RLC63)  
 RLC10 : only No marking is available.  
 Please contact KAMAYA for marking of RLC16.

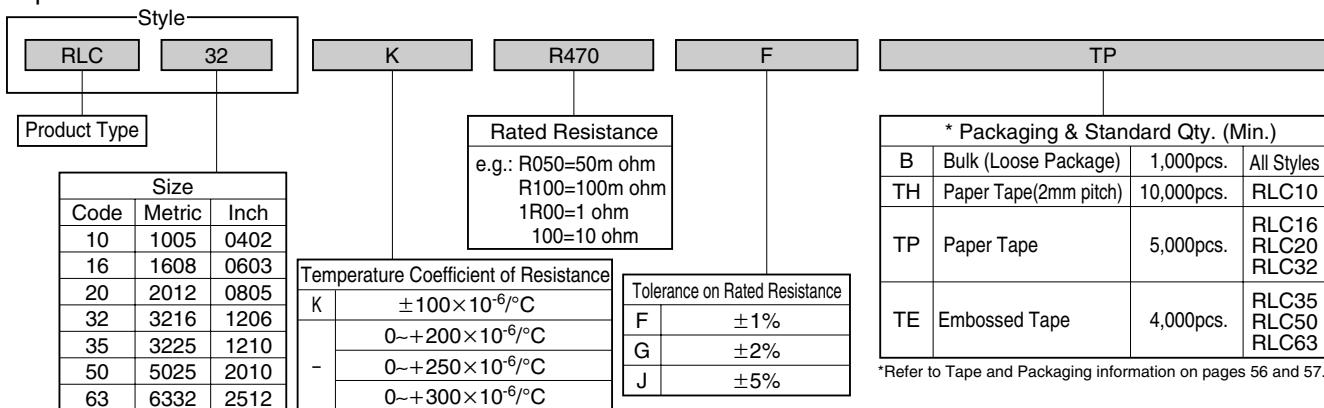
Unit : mm

Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
RLC10	1005	0402	1.0 $\pm$ 0.05	0.5 $\pm$ 0.05	0.35 $\pm$ 0.05	0.2 $\pm$ 0.1	0.25 $^{+0.05}_{-0.10}$	0.6mg
RLC16	1608	0603	1.6 $\pm$ 0.1	0.8 $^{+0.15}_{-0.05}$	0.45 $\pm$ 0.10	0.3 $\pm$ 0.1	0.3 $\pm$ 0.1	2mg
RLC20	2012	0805	2.0 $\pm$ 0.15	1.25 $\pm$ 0.10	0.6 $\pm$ 0.1	0.4 $\pm$ 0.2	0.4 $\pm$ 0.2	5mg
RLC32	3216	1206	3.1 $\pm$ 0.2	1.6 $\pm$ 0.15	0.6 $\pm$ 0.1	0.5 $\pm$ 0.25	0.3 $^{+0.2}_{-0.1}$	9mg
RLC35	3225	1210	3.1 $\pm$ 0.2	2.5 $\pm$ 0.15	0.6 $\pm$ 0.15	0.5 $\pm$ 0.25	0.3 $^{+0.2}_{-0.1}$	16mg
RLC50	5025	2010	5.0 $\pm$ 0.2	2.5 $\pm$ 0.15	0.6 $\pm$ 0.15	0.6 $\pm$ 0.2	0.6 $\pm$ 0.2	25mg
RLC63	6332	2512	6.3 $\pm$ 0.2	3.2 $\pm$ 0.15	0.6 $\pm$ 0.15	0.6 $\pm$ 0.2	0.6 $\pm$ 0.2	40mg

\*Values for reference

**●Part Number Description**

Example



\*Refer to Tape and Packaging information on pages 56 and 57.

## FIXED THICK FILM CHIP RESISTORS; RECTANGULAR TYPE &amp; LOW OHM

RLC

## ● Ratings

Style	Size Metric (Inch)	Rated Dissipation at 70°C W	Rated Current Range A	Rated Resistance Range	Combinations of Rated Resistance Range, Temperature Coefficient of Resistance and Tolerance on Rated Resistance			Isolation Voltage V	Category Temperature Range °C
					Rated Resistance Range	Tolerance on Rated Resistance	Temperature Coefficient of Resistance $10^{-6}/^{\circ}\text{C}$		
RLC10	1005 (0402)	0.125	0.11~1.11	100mΩ~10Ω	100mΩ~220mΩ	J	0~+300	100	-55~+125
					240mΩ~430mΩ	F, J			
					470mΩ~3.3Ω	F, G, J	0~+200		
					3.6Ω~10Ω	F, J	±100		
RLC16	1608 (0603)	0.25	0.14~1.58	100mΩ~10Ω	100mΩ~180mΩ	F, G, J	0~+250	500	-55~+125
					200mΩ~430mΩ	F, G, J	0~+200		
					470mΩ~3.3Ω	F, G, J	±100		
					3.6Ω~10Ω	F, J			
RLC20	2012 (0805)	0.33	0.15~2.56	50mΩ~10Ω	50mΩ~180mΩ	F, G, J	0~+250	500	-55~+125
RLC32	3216 (1206)	0.5	0.18~3.16		200mΩ~430mΩ	F, G, J	0~+200		
RLC35	3225 (1210)	0.66	0.44~3.63		470mΩ~3.3Ω	F, G, J	±100		
RLC50	5025 (2010)	0.75	0.47~3.87		3.6Ω~10Ω	F, J			
RLC63	6332 (2512)	1.0	0.55~4.47	50mΩ~3.3Ω	50mΩ~180mΩ	F, G, J	0~+250	500	-55~+125
					200mΩ~430mΩ	F, G, J	0~+200		
					470mΩ~3.3Ω	F, G, J	±100		

Note1. Rated Current =  $\sqrt{(\text{Rated Dissipation})/(\text{Rated Resistance})}$  Note2. Rated Voltage =  $\sqrt{(\text{Rated Dissipation}) \times (\text{Rated Resistance})}$ . (d.c. or a.c. r.m.s. Voltage)Note3. Limiting Element Voltage\*<sup>1</sup> is set up on RLC16, 20, 32 and rated current is not applied in the range of following rated of Resistance\*<sup>2</sup>.

\*1 RLC16=1.41V, RLC20=1.58V, RLC32=1.81V

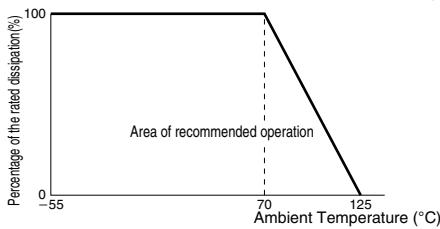
\*2 RLC16 and RLC20 : 7.5Ω &lt; R , RLC32 : 6.2Ω &lt; R

The Rated Current in the above range of the Rated Resistance Value is calculated as below way.

Rated Current=Limiting Element Voltage/Rated Resistance

## ● Derating Curve

The derated values of dissipation for temperatures in excess of 70°C shall be indicated by the following Curve.

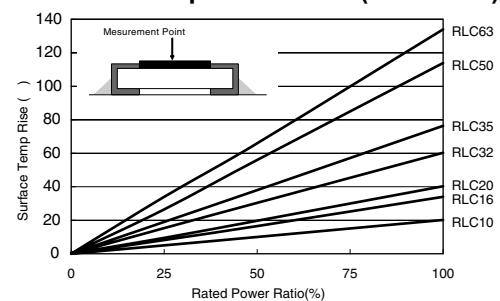


## ● Climatic Category

55/125/56

Lower Category Temperature -55°C  
Upper Category Temperature +125°C  
Duration of the Damp heat, Steady-State Test 56 days

## ● Surface Temperature Rise (Reference)



\*Because values are different, please contact Kamaya salesdepartment for the details about deployment condition and terms of use.

## ● Rated Resistance

Resistance	Code										
50mΩ	R050	82mΩ	R082	200mΩ	R200	430mΩ	R430	750mΩ	R750	1.6Ω	1R60
51mΩ	R051	90mΩ	R090	220mΩ	R220	470mΩ	R470	800mΩ	R800	1.8Ω	1R80
56mΩ	R056	91mΩ	R091	240mΩ	R240	500mΩ	R500	820mΩ	R820	2.0Ω	2R00
60mΩ	R060	100mΩ	R100	250mΩ	R250	510mΩ	R510	900mΩ	R900	2.2Ω	2R20
62mΩ	R062	110mΩ	R110	270mΩ	R270	560mΩ	R560	910mΩ	R910	2.4Ω	2R40
65mΩ	R065	120mΩ	R120	300mΩ	R300	600mΩ	R600	1.0Ω	1R00	2.7Ω	2R70
68mΩ	R068	130mΩ	R130	330mΩ	R330	620mΩ	R620	1.1Ω	1R10	3.0Ω	3R00
70mΩ	R070	150mΩ	R150	360mΩ	R360	650mΩ	R650	1.2Ω	1R20	3.3Ω	3R30
75mΩ	R075	160mΩ	R160	390mΩ	R390	680mΩ	R680	1.3Ω	1R30	3.6Ω	3R60
80mΩ	R080	180mΩ	R180	400mΩ	R400	700mΩ	R700	1.5Ω	1R50	3.9Ω	3R90
										10Ω	100

Note3. Other nominal resistances values are also available, please contact KAMAYA for further information.

## ● Performance Characteristics JIS C 5201-1 : 1998

Description		Requirements		Test Methods			
Voltage proof		No breakdown or flashover $R \geq 1G\ \Omega$		Clause 4.7 RLC10,16 RLC20~63 100V a.c., 60s 500V a.c., 60s			
Variation of resistance with temperature		See Ratings Table		Clause 4.8 Measuring temperature : +20°C/+125°C/+20°C			
Overload		$\Delta R \leq \pm 1\%$ No visible damage, legible marking		Clause 4.13 The applied voltage shall be 2.5 times of Rated Voltage, or equivalent current 2s.			
Solderability		In accordance with Clause 4.17.4.5		Clause 4.17 235°C, 2s			
Resistance to soldering heat		$\Delta R \leq \pm 1\%$		Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in Solder bath at 260°C for 5s.			
Rapid change of temperature		$\Delta R \leq \pm 1\%$ No visible damage		Clause 4.19 5 cycles between -55°C and +125°C.			
Climatic sequence		$\Delta R \leq \pm 5\%$ No visible damage		Clause 4.23 Dry/Damp heat(12+12h cycle), first cycle/ Cold/Damp heat(12+12h cycle), remaining cycle./ D.C.Load.			
Damp test, steady state		$\Delta R \leq \pm 5\%$ No visible damage, legible marking		Clause 4.24 40°C, 95%R.H., 56 days, test a) of Clause 4.24.2.1			
Endurance at 70°C		$\Delta R \leq \pm 5\%$ No visible damage		Clause 4.25.1 Rated current, 1.5h "ON", 0.5h "OFF", 70°C, 1,000h.			
Endurance at the upper category temperature		$\Delta R \leq \pm 5\%$ No visible damage		Clause 4.25.3 125°C, no-load, 1,000h.			
Adhesion		No visible damage		Clause 4.32 5N, 10s			
Bend strength of the face plating		$\Delta R \leq \pm 1\%$		Clause 4.33 RLC10~35 Amount of bend : 3 mm RLC50, 63 Amount of bend : 1 mm			