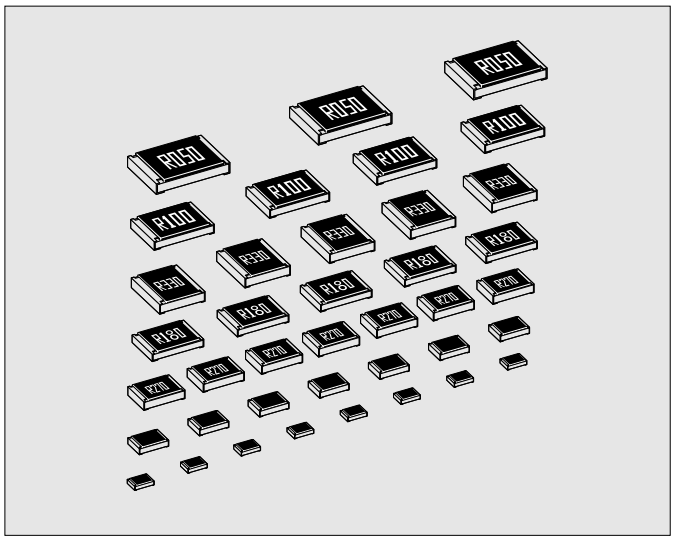
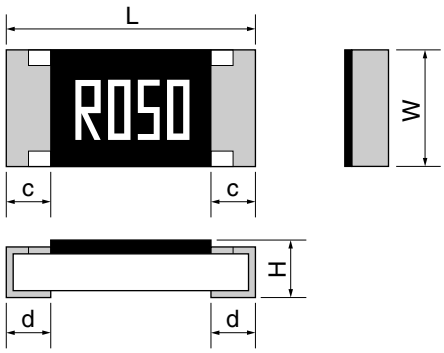
RLC

●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. 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.

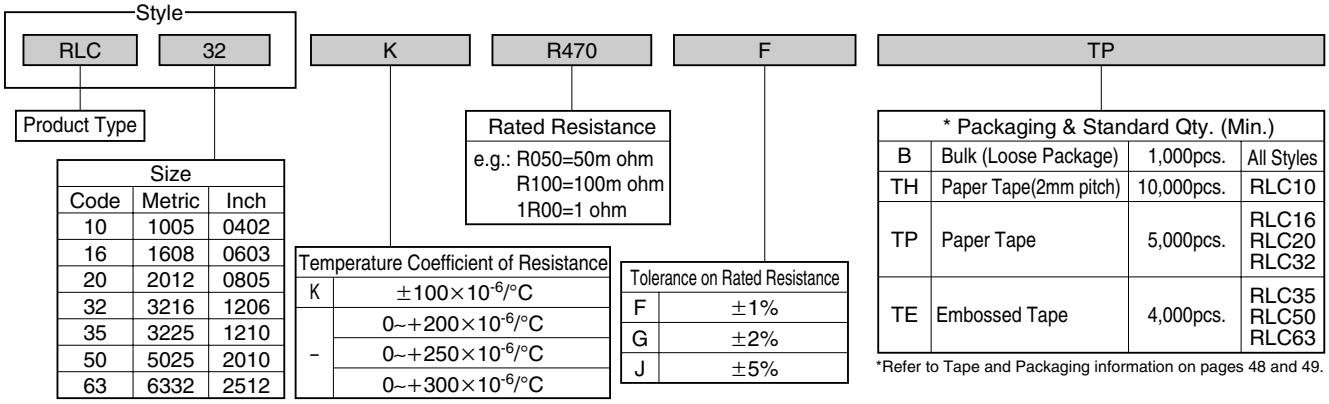
Unit : mm

Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
RLC10	**1005**	**0402**	1.0±0.05	0.5 ±0.05	0.35±0.05	0.2±0.1	$0.25^{+0.05}_{-0.10}$	1mg
RLC16	**1608**	**0603**	1.6±0.1	$0.8^{+0.15}_{-0.05}$	0.45±0.10	0.3±0.1	0.3 ±0.1	2mg
RLC20	**2012**	**0805**	2.0±0.15	1.25 ±0.10	0.6 ±0.1	0.4±0.2	0.4 ±0.2	5mg
RLC32	**3216**	**1206**	3.1±0.2	1.6 ±0.15	0.6 ±0.1	0.5±0.25	$0.3^{+0.2}_{-0.1}$	9mg
RLC35	**3225**	**1210**	3.1±0.2	2.5 ±0.15	0.6 ±0.15	0.5±0.25	$0.3^{+0.2}_{-0.1}$	16mg
RLC50	**5025**	**2010**	5.0±0.2	2.5 ±0.15	0.6 ±0.15	0.6±0.2	0.6 ±0.2	25mg
RLC63	**6332**	**2512**	6.3±0.2	3.2 ±0.15	0.6 ±0.15	0.6±0.2	0.6 ±0.2	40mg

*Values for reference

●Part Number Description

Example



*Refer to Tape and Packaging information on pages 48 and 49.

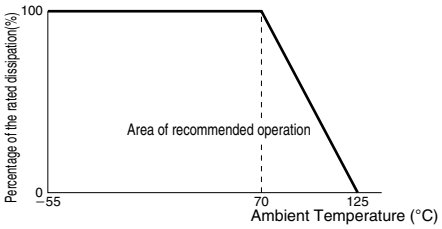
●Ratings

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}/°C		
RLC10	1005 (0402)	0.125	0.19 ~1.11	100mΩ~3.3Ω	100mΩ~220mΩ	J	0~ +300	100	−55~+125
					240mΩ~430mΩ	F, J			
					470mΩ~3.3Ω	F, G, J	0~ +200		
RLC16	1608 (0603)	0.25	0.27 ~1.58	100mΩ~3.3Ω	100mΩ~180mΩ	F, G, J	0~ +250		
					200mΩ~430mΩ	F, G, J	0~ +200		
					470mΩ~3.3Ω	F, G, J	±100		
RLC20	2012 (0805)	0.33	0.31 ~2.56	50mΩ~3.3Ω				500	
RLC32	3216 (1206)	0.5	0.38 ~3.16		50mΩ~180mΩ	F, G, J	0~ +250		
RLC35	3225 (1210)	0.66	0.44 ~3.63		200mΩ~430mΩ	F, G, J	0~ +200		
RLC50	5025 (2010)	0.75	0.47 ~3.87		470mΩ~3.3Ω	F, G, J	±100		
RLC63	6332 (2512)	1.0	0.55 ~4.47						

Note1. Rated Current = $\sqrt{\text{(Rated Dissipation)/(Rated Resistance)}}$
Note2. Rated Voltage = $\sqrt{\text{(Rated Dissipation)}\times\text{(Rated Resistance)}}$. (d.c. or a.c. r.m.s. Voltage)

●Derating Curve

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

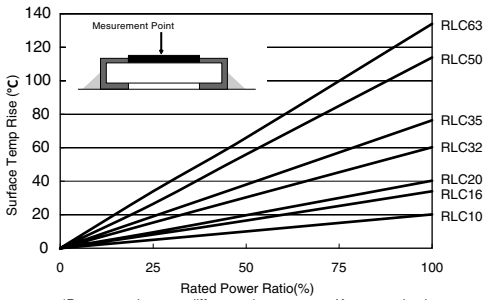


●Climatic Category

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	Resistance	Code	Resistance	Code	Resistance	Code	Resistance	Code	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		
80mΩ	R080	180mΩ	R180	400mΩ	R400	700mΩ	R700	1.5Ω	1R50		

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≥1G ohm	Clause 4.7	RLC10,16 100Va.c.,60s RLC20~63 500Va.c.,60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8	Measuring temperature : +20°C/+125°C/+20°C
Overload	ΔR≤±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	ΔR≤±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	ΔR≤±1% No visible damage	Clause 4.19	5 cycles between −55°C and +125°C.
Climatic sequence	ΔR≤±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	ΔR≤±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	ΔR≤±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	ΔR≤±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	ΔR≤±1%	Clause 4.33	RLC10~35 Amount of bend : 3 mm RLC50, 63 Amount of bend : 1 mm