FIXED THICK FILM CHIP RESISTORS; RECTANGULAR TYPE & LOW OHM ▬ **KAMAYA OHM** ▬
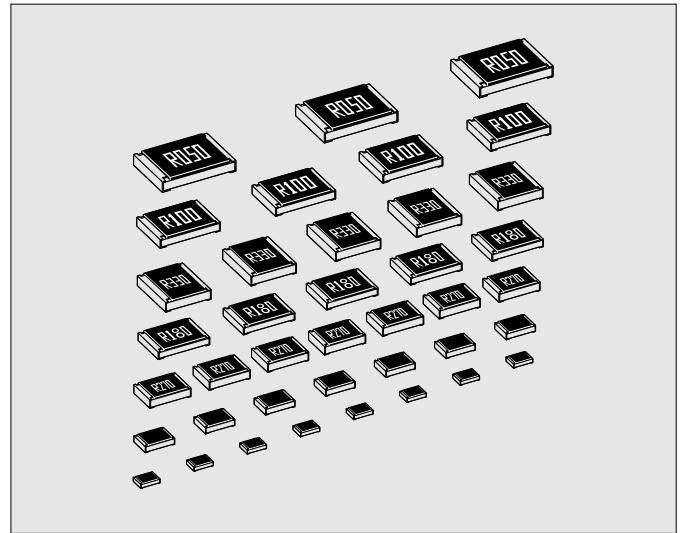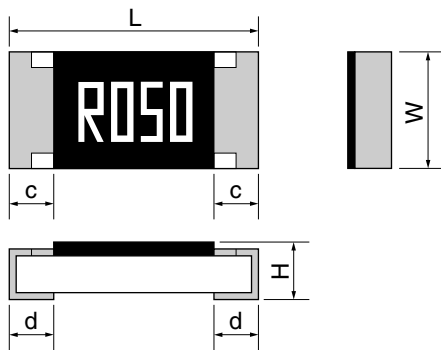
RLC

●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. Please contact KAMAYA for Halogen and Antimony free product of RLC series.
4. Stability Class : 5%

●Dimensions

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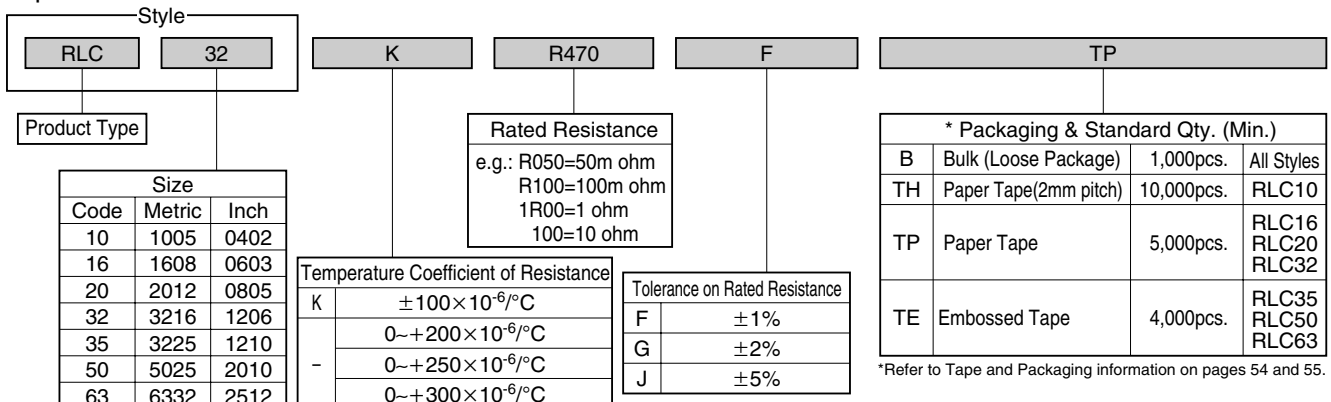Please contact KAMAYA for marking of RLC16.

Unit : mm

Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
RLC10	1005	0402	1.0±0.05	0.5 ±0.05	0.35±0.05	0.2±0.1	$0.25^{+0.05}_{-0.10}$	0.6mg
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

RLC	32	K	R470	F	TP

Product Type

Style

Size

Code	Metric	Inch
10	1005	0402
16	1608	0603
20	2012	0805
32	3216	1206
35	3225	1210
50	5025	2010
63	6332	2512

Temperature Coefficient of Resistance

K	±100×10⁻⁶/°C
–	0~+200×10⁻⁶/°C
	0~+250×10⁻⁶/°C
	0~+300×10⁻⁶/°C

Rated Resistance

e.g.: R050=50m ohm
R100=100m ohm
1R00=1 ohm
100=10 ohm

Tolerance on Rated Resistance

F	±1%
G	±2%
J	±5%

* Packaging & Standard Qty. (Min.)

B	Bulk (Loose Package)	1,000pcs.	All Styles
TH	Paper Tape(2mm pitch)	10,000pcs.	RLC10
TP	Paper Tape	5,000pcs.	RLC16 RLC20 RLC32
TE	Embossed Tape	4,000pcs.	RLC35 RLC50 RLC63

*Refer to Tape and Packaging information on pages 54 and 55.

FIXED THICK FILM CHIP RESISTORS; RECTANGULAR TYPE & 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 $10^{-6}/°C$		
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		
					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	
					200mΩ~430mΩ	F, G, J	0~+200		
RLC32	3216 (1206)	0.5	0.18~3.16		470mΩ~3.3Ω	F, G, J	±100		
					3.6Ω~10Ω	F, J			
RLC35	3225 (1210)	0.66	0.44~3.63	50mΩ~3.3Ω	50mΩ~180mΩ	F, G, J	0~+250		
RLC50	5025 (2010)	0.75	0.47~3.87		200mΩ~430mΩ	F, G, J	0~+200		
RLC63	6332 (2512)	1.0	0.55~4.47		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[*1] is set up on RLC16, 20, 32 and rated current is not applied in the range of following rated of Resistance[*2].
  *1 RLC16=1.41V, RLC20=1.58V, RLC32=1.81V   *2 RLC16 and RLC20 7.5Ω R , RLC32 6.2Ω 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.
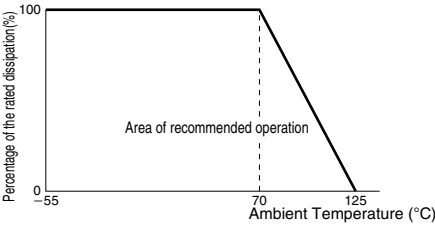
●Climatic Category

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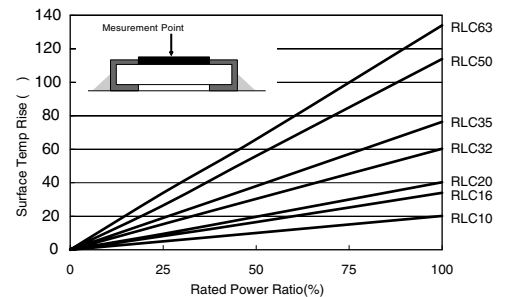
*Because values are different, please contact Kamaya sales department
for the details about deployment condition and terms of use.

●Rated Resistance

Resistance	Code	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	4.3Ω	4R30
51mΩ	R051	90mΩ	R090	220mΩ	R220	470mΩ	R470	800mΩ	R800	1.8Ω	1R80	4.7Ω	4R70
56mΩ	R056	91mΩ	R091	240mΩ	R240	500mΩ	R500	820mΩ	R820	2.0Ω	2R00	5.1Ω	5R10
60mΩ	R060	100mΩ	R100	250mΩ	R250	510mΩ	R510	900mΩ	R900	2.2Ω	2R20	5.6Ω	5R60
62mΩ	R062	110mΩ	R110	270mΩ	R270	560mΩ	R560	910mΩ	R910	2.4Ω	2R40	6.2Ω	6R20
65mΩ	R065	120mΩ	R120	300mΩ	R300	600mΩ	R600	1.0Ω	1R00	2.7Ω	2R70	6.8Ω	6R80
68mΩ	R068	130mΩ	R130	330mΩ	R330	620mΩ	R620	1.1Ω	1R10	3.0Ω	3R00	7.5Ω	7R50
70mΩ	R070	150mΩ	R150	360mΩ	R360	650mΩ	R650	1.2Ω	1R20	3.3Ω	3R30	8.2Ω	8R20
75mΩ	R075	160mΩ	R160	390mΩ	R390	680mΩ	R680	1.3Ω	1R30	3.6Ω	3R60	9.1Ω	9R10
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≥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