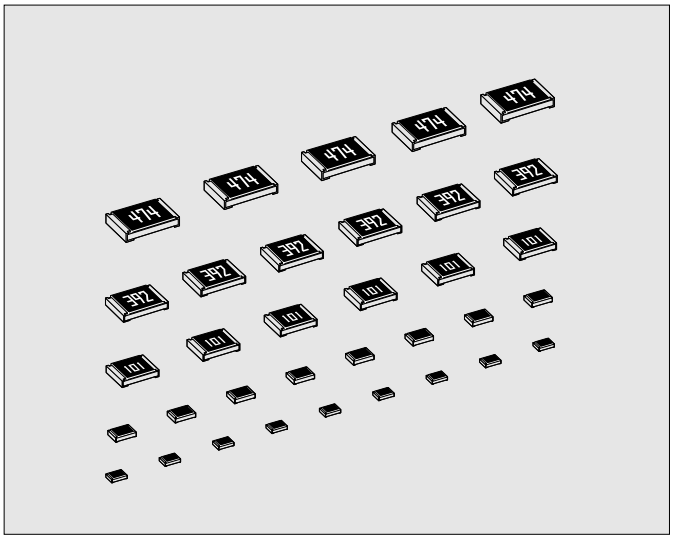
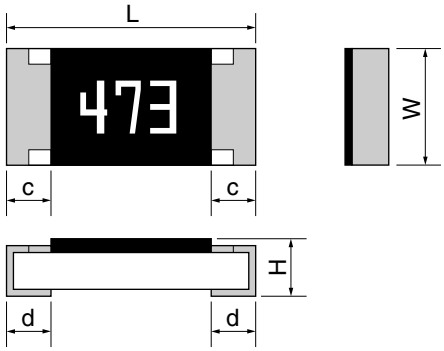
RGC

●Features

1. Suitable for precision applications.
2. High stabilized characteristics and Performance equivalent to thin-film chip resistors.
3. Precise Dimension by Laser-scriber method (RGC1/20).
4. Press Pocket Taping Package (RGC1/20).
5. Please contact KAMAYA for Halogen and Antimony free product of RGC series.
6. Stability Class : 5%



●Dimensions



Rated resistance value marking is with 3-digit (E24) or 4-digit (E96) on the over coating.
RGC1/16 : only 3digit marking is available.
RGC1/16S,1/20 : only No marking is available.

Unit : mm

Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
RGC1/20	0603	0201	0.6±0.03	0.3 ±0.03	0.23 ±0.03	0.1 ±0.05	0.15 ±0.05	0.16mg
RGC1/16S	1005	0402	1.0±0.05	0.5 ±0.05	0.35 ±0.05	0.2 ±0.1	$0.25^{+0.05}_{-0.1}$	0.6mg
RGC1/16	1608	0603	1.6±0.1	$0.8^{+0.15}_{-0.05}$	0.45 ±0.10	0.25 ±0.10	0.3 ±0.1	2mg
RGC1/10	2012	0805	2.0±0.1	1.25 ±0.10	0.6 ±0.1	0.4 ±0.2	0.4 ±0.2	5mg
RGC1/8	3216	1206	3.2±0.15	1.6 ±0.15	0.6 ±0.1	0.5 ±0.25	0.5 ±0.25	9mg

*Values for reference

●Part Number Description

Example

Style

RGC	1/16	C	473	D	TP

Product Type

Rated Dissipation & Size

Code	Rated Dissipation	Metric	Inch
1/20	0.05W	0603	0201
1/16S	0.063W	1005	0402
1/16	0.1W (0.063W)	1608	0603
1/10	0.125W (0.1W)	2012	0805
1/8	0.25W (0.125W)	3216	1206

*If Category Temperature Range is "–55~+155", Rated Dissipation is applied to in ( ).

Rated Resistance

E24 Series e.g. : 473=47k ohm	3-Digit
E96 Series e.g. : 7152=71.5k ohm	4-Digit

Temperature Coefficient of Resistance

C	± 50×10^{-6}/°C
K	±100×10^{-6}/°C

Tolerance on Rated Resistance

D	±0.5%
F	±1.0%

* Packaging & Standard Qty. (Min.)

B	Bulk (Loose Package)	1,000pcs.	All Styles
PA	Press-Pocket Paper Tape (2mm pitch)	15,000pcs.	RGC1/20
TH	Paper Tape (2 mm pitch)	10,000pcs.	RGC1/16S
TP	Paper Tape	5,000pcs.	RGC1/16 RGC1/10 RGC1/8
BA	Bulk Case	25,000pcs.	RGC1/16
		10,000pcs.	RGC1/10
		5,000pcs.	RGC1/8

*Refer to Tape and Packaging information on pages 52 and 53.
*Please contact Kamaya sales department for 1mm pitch taping of RGC1/16s, 1/20.

Product specifications contained in this catalogue are subject to change at any time without notice. Please confirm specifications with your order. 【RoHS】

●Ratings

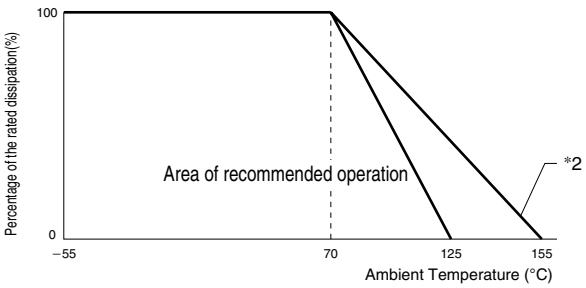
Style	Size Metric (Inch)	Rated Dissipation at 70°C W	Rated Resistance Range (10Ω 100Ω 1kΩ 1MΩ)	Tolerance on Rated Resistance	Temperature Coefficient of Resistance Code	Temperature Coefficient of Resistance 10^{-6}/°c	Limiting Element Voltage V	Isolation Voltage V	Category Temperature Range °C
RGC1/20	0603 (0201)	0.05	51~976	D(±0.5%)	K	±100	25	50	−55~+125
			1k~1M		C	± 50			
RGC1/16S	1005 (0402)	0.063	10~97.6	D(±0.5%) F(±1%)	K	±100	50	100	−55~+155
			100~1M		C	± 50			
			1.02M~3.3M		K	±100			
RGC1/16	1608 (0603)	0.1 *1(0.063)	3.3~9.76	F(±1%)	K	±100			−55~+125 *1(−55~+155)
			10~97.6	D(±0.5%) F(±1%)					
			100~1M		C	± 50			
			1.02M~3.3M		K	±100			
RGC1/10	2012 (0805)	0.125 *1(0.1)	3.3~9.76	F(±1%)	C	± 50	150	500	
			10~3.3M	D (±0.5%), F (±1%)					
RGC1/8	3216 (1206)	0.25 *1(0.125)	3.3~9.76	F(±1%)	C	± 50	200		
			10~4.7M	D (±0.5%), F (±1%)					

*1 If Category Temperature Range is "–55~+155", Rated Dissipation is applied to in ( ).

Note1. E24, E96 are avaialable for "F"(1%) and "D"(0.5%)
Note2. Rated Voltage = $\sqrt{(\text{Rated Dissipation})\times(\text{Rated Resistance})}$. (d.c. or a.c. r.m.s. Voltage)
Note3. Limiting Element Voltage can only be applied to resistors when the resistance value is equal to or higher than the critical resistance value.
Note4. Critical Resistance Value is the resistance value at which the rated voltage is equal to the limiting element 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 *2(55/155/56)

Lower Category Temperature −55°C *2(–55°C)
Upper Category Temperature +125°C *2(+155°C)
Duration of the Damp heat, Steady-State Test 56 days *2(56 days)

●Performance Characteristics JIS C 5201-1 : 1998

Description	Requirements	Test Methods	
Voltage proof	No breakdown or flashover R≥1G ohm	Clause 4.7	RGC1/20 50Va.c.,60s RGC1/16S, 1/16, 1/10, 1/8 100Va.c.,60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8	Measuring temperature : +20°C/+125°C *2(+155°C) /+20°C
Overload	ΔR≤±(1%+0.05 ohm) No visible damage, legible marking	Clause 4.13	The applied voltage shall be 2.5 times of the rated voltage or twice of the limiting element voltage, whichever is the less severe, 2s.
Solderability	In accordance with Clause 4.17.4.5	Clause 4.17	235°C, 2s
Resistance to soldering heat	ΔR≤±(1%+0.05 ohm)	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%+0.05 ohm) No visible damage	Clause 4.19	5 cycles between −55°C and +125°C *2(+155°C).
Climatic sequence	ΔR≤±(5%+0.1 ohm) 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%+0.1 ohm) No visible damage, legible marking	Clause 4.24	40°C, 95%R.H., 56 days, test a) and b) of Clause 4.24.2.1
Endurance at 70°C	ΔR≤±(5%+0.1 ohm) No visible damage	Clause 4.25.1	Rated voltage, 1.5h"ON", 0.5h"OFF", 70°C, 1,000h.
Endurance at the upper category temperature	ΔR≤±(5%+0.1 ohm) No visible damage	Clause 4.25.3	125°C *2(155°C), no-load, 1,000h.
Adhesion	No visible damage	Clause 4.32	5N, 10s (RGC1/20 : 3N)
Bend strength of the face plating	ΔR≤±(1%+0.05 ohm)	Clause 4.33	Amount of bend : 3 mm

*2 ( ) on Derating Curue, Climatic Category, and Test Methods will be applied, when Upper Category Temperature is +155°C.