

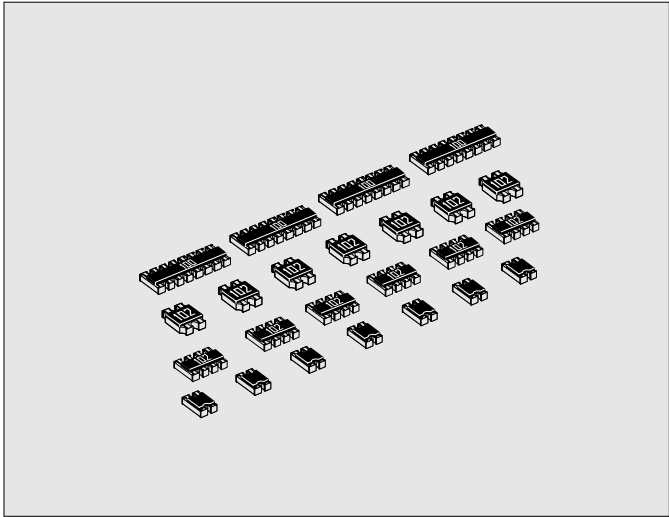
FIXED CHIP RESISTOR NETWORKS; RECTANGULAR TYPE

KAMAYA OHM

RAC

●Features

1. High-density SMD packaging contributes higher productivity and reduces assembly costs.
2. Please contact KAMAYA for Halogen and Antimony free product of RAC series.
3. Stability Class : 5%



●Dimensions and Circuits

Terminal Style: A

RAC162D

Terminal Style: C

RAC104D
RAC164D

Terminal Style: C

RAC102D

Terminal Style: C

RAC168D

Circuits

R₁=R₂=...=R_n

• Please contact KAMAYA for different resistance values.

Note. Please contact KAMAYA for the detail of marking on the over coating.

Unit : mm

Style	Terminal Style	L	W	H	Q ₁	*Q ₂	a	b	*P	*Unit weight/pc.
RAC102D	C	1.0±0.05	1.0±0.05	0.35±0.05	—	0.33	0.15±0.10	0.25 ^{+0.05} _{-0.10}	0.65	1.1mg
RAC104D	C	2.0±0.1	1.0±0.1	0.35±0.05	0.35±0.1	0.45	0.15±0.10	0.25±0.10	0.5	2.1mg
RAC162D	A	1.6±0.1	1.6±0.1	0.5 ±0.1	0.5 ±0.1	—	0.25±0.10	0.25 ^{+0.15} _{-0.10}	0.8	3.5mg
RAC164D	C	3.2±0.1	1.6±0.1	0.5 ±0.1	0.4 ±0.15	0.6	0.3 ±0.2	0.25±0.15	0.8	7mg
RAC168D	C	3.8±0.1	1.6±0.1	0.45±0.1	0.3 ±0.1	0.3	0.3 ±0.1	0.3 ±0.1	0.5	8.3mg

*Values for reference

●Part Number Description

Example

RAC

16

2

D

Product Type

Size

No. of Elements

Circuits

10

W:1.0mm

2

2-Elements

D

Isolation

16

W:1.6mm

4

4-Elements

8

8-Elements

103

J

A

B

Rated Resistance

Tolerance on Rated Resistance

E24 Series
e.g.:103=10k ohm

Resistor

F

±1%

Resistor

JP

Jumper

J

±5%

Resistor

None

Jumper

* Packaging & Standard Qty. (Min.)

B

TH

TP

Bulk (Loose Package)

Paper Tape (2 mm pitch)

Paper Tape

1,000pcs.

10,000pcs.

5,000pcs.

All Styles

RAC102D
RAC104D

RAC162D
RAC164D
RAC168D

*Refer to Tape and Packaging information on pages 52 and 53.

FIXED CHIP RESISTOR NETWORKS; RECTANGULAR TYPE

RAC

●Ratings

Style	Rated Dissipation at 70°C		Rated Current of Jumper A	Rated Resistance Range	Tolerance on Rated Resistance	Temperature Coefficient of Resistance 10 ⁻⁶ /°C	Limiting Element Voltage V	Preferred Number Series for Resistors	Isolation Voltage V	Category Temperature Range °C					
	W/Element	W/pc.													
RAC102D	0.063	0.125	1.0	10Ω~1MΩ	J(±5%)	±200	25	E24	50	-55~+125					
RAC104D		0.25					50								
RAC162D		0.125			F(±1%)J(±5%)										
RAC164D		0.25													
RAC168D		0.25			J(±5%)		25								

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

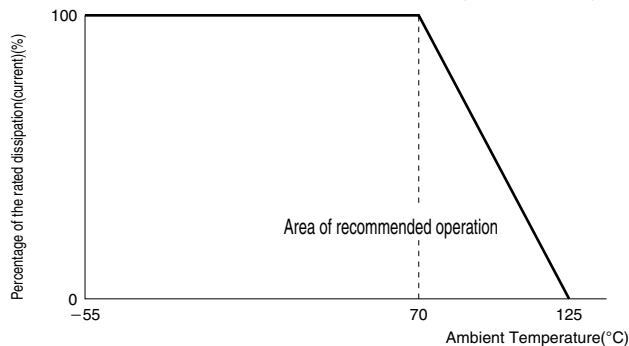
Note2. Limiting Element Voltage can only be applied to resistors when the resistance value is equal to or higher than the critical resistance value.

Note3. 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.

(For Jumpers the load current shall be derated according to the Derating 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

●Performance Characteristics JIS C 5201-1 : 1998

Description	Requirements	Test Methods
Voltage proof	No breakdown or flashover $R \geq 1G \text{ ohm}$	Clause 4.7 RAC102D, 104D 50Va.c., 60s RAC162D, 104D, 168D 100Va.c., 60s
Variation of resistance with temperature	See Ratings Table	Clause 4.8 Measuring temperature : +20°C/-55°C/ +20°C/+125°C/+20°C
Overload	$\Delta R \leq \pm(1\% + 0.05 \text{ ohm})$ 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	$\Delta R \leq \pm(1\% + 0.05 \text{ ohm})$	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	$\Delta R \leq \pm(1\% + 0.05 \text{ ohm})$ No visible damage	Clause 4.19 5 cycles between -55°C and +125°C.
Climatic sequence	$\Delta R \leq \pm(5\% + 0.1 \text{ ohm})$ 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	$\Delta R \leq \pm(5\% + 0.1 \text{ ohm})$ 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	$\Delta R \leq \pm(5\% + 0.1 \text{ ohm})$ 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	$\Delta R \leq \pm(5\% + 0.1 \text{ ohm})$ 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	$\Delta R \leq \pm(1\% + 0.05 \text{ ohm})$	Clause 4.33 Amount of bend : 3 mm