

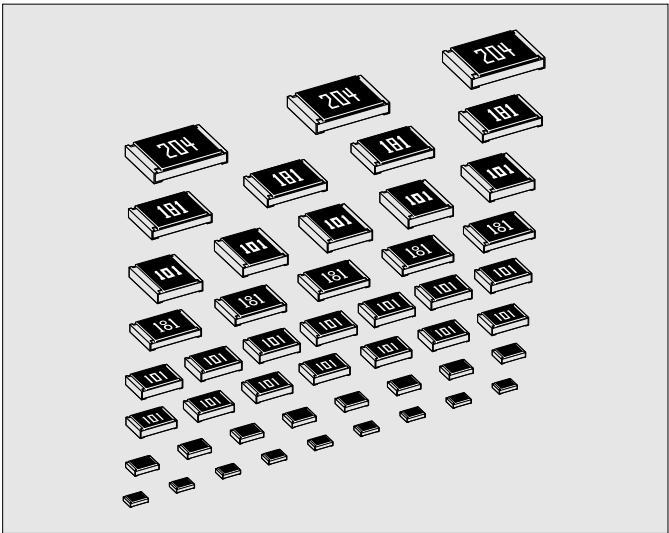
FIXED THICK FILM CHIP RESISTORS; RECTANGULAR TYPE

KAMAYA OHM

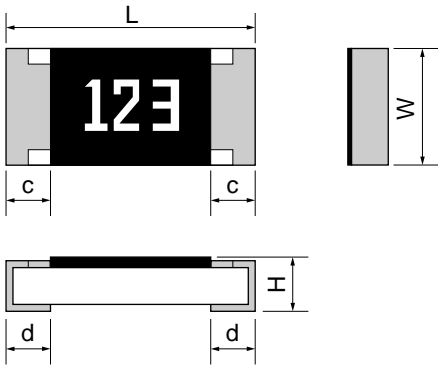
RMC1/20, 1/16S, 1/16, 1/10, 1/8, 1/4, 1/2, 1

●Features

1. A series of resistors and jumper chips from 0201 to 2512 for use in a wide variety of circuits.
2. Highly stabilized metal-glaze is used for the electrodes together with a glass-coating to improve resistance to mechanical stress.
3. Stability class : 5%



●Dimensions and Structure



Resistance is marked with 3-digits on the over coating except RMC1/16S & RMC1/20 type. 4-digit marking is available for F & G tolerance except RMC1/16, RMC1/16S & RMC1/20 type.

Unit : mm								
Style	Metric	Inch	L	W	H	c	d	*Unit weight/pc.
RMC1/20	0603	0201	0.6±0.03	0.3 ±0.03	0.23±0.03	0.1±0.05	0.15 ±0.05	0.16mg
RMC1/16S	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
RMC1/16	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
RMC1/10	2012	0805	2.0±0.1	1.25±0.10	0.55±0.10	0.4±0.2	0.4 ±0.2	5mg
RMC1/8	3216	1206	3.2±0.15	1.6 ±0.15	0.55±0.10	0.5±0.25	0.5 ±0.25	9mg
RMC1/4	3225	1210	3.2±0.15	2.5 ±0.15	0.55±0.15	0.5±0.25	0.5 ±0.25	16mg
RMC1/2	5025	2010	5.0±0.15	2.5 ±0.15	0.55±0.15	0.6±0.2	0.6 ±0.2	25mg
RMC1	6332	2512	6.3±0.15	3.2 ±0.15	0.55±0.15	0.6±0.2	0.6 ±0.2	40mg

*Values for reference

●Product Classification

Example

RMC1/10

① Product Type ② Rated Dissipation & Size

Style

① Product Type

② Rated Dissipation & Size			
Code	Rated Dissipation (Jumper's Rated Current)	Size	
1/20	0.05W (1A)	0603	0201
1/16S	0.063W (1A)	1005	0402
1/16	0.1W (1A)	1608	0603
1/10	0.125W (2A)	2012	0805
1/8	0.25W (2A)	3216	1206
1/4	0.25W (2A)	3225	1210
1/2	0.5W (2A)	5025	2010
1	1.0W (2A)	6332	2512

K

③ Temperature Coefficient of Resistance

③ Temperature Coefficient of Resistance		
Code	Temperature Coefficient of Resistance	Application
-	Standard	Resistor
K	±100×10 ⁻⁶ /°C	Resistor
None		Jumper

103

④ Rated Resistance

④ Rated Resistance		
Rated Resistance		Application
E24 Series e.g : 2R2=2.2 ohm 103=10k ohm	3Digit	Resistor
E96 Series e.g : 10R2=10.2 ohm 1002=10k ohm	4Digit	Resistor
JP		Jumper

F

⑤ Tolerance on Rated Resistance

⑤ Tolerance on Rated Resistance		
Code	Tolerance on Rated Resistance	Application
F	± 1%	Resistor
G	± 2%	
J	± 5%	
K	±10%	
None		Jumper

TP

⑥ Packaging

* ⑥ Packaging		
Code	Packaging	Application
B	Bulk(Loose Package)	All Styles
TP	Paper Tape.	RMC1/16 RMC1/10 RMC1/8
TE	Embossed Tape.	RMC1/4 RMC1/2 RMC1
TH	Paper Tape. (2mm pitch)	RMC1/20 RMC1/16S RMC1/16
PA	Press-Poket Paper-Taping	RMC1/20
BA	Bulk Case	RMC1/16 RMC1/10 RMC1/8

*Refer to Taping and Packaging information in page 34-35

For more information, or to purchase call E.C.C. Inc @ 1-800-214-8769

FIXED THICK FILM CHIP RESISTORS; RECTANGULAR TYPE RMC1/20, 1/16S, 1/16, 1/10, 1/8, 1/4, 1/2, 1

●Ratings

Style	Rated Dissipation at 70°C W	Rated Current of Jumper A	Limiting Element Voltage V	Temperature Coefficient of Resistance 10 ⁻⁶ /°C	Combinations of Resistance Range and Tolerance				Isolation Voltage V	Category Temperature Range °C
					F(±1%) E96 Series E24 Series	G(±2%) E24 Series	J(±5%) E24 Series	K(±10%) E12 Series		
RMC1/20	0.05	1.0	25	±200	100ohm-1Mohm	100ohm-1Mohm	100ohm-1Mohm	-	50	-55--+125
RMC1/16S	0.1		50	±300	10ohm-97.6ohm	10ohm-91ohm	10ohm-91ohm			
RMC1/16				±100	100ohm-1Mohm	-	-			
				±200	10ohm-5.6Mohm	10ohm-2.2Mohm	10ohm-10Mohm			
				±500	1ohm-9.76ohm	-	1ohm-9.1ohm			
				±100	100ohm-1Mohm	-	-			
				±200	10ohm-4.7Mohm	10ohm-2.2Mohm	10ohm-22Mohm			
				+500---200	1ohm-9.76ohm	1ohm-9.1ohm	1ohm-9.1ohm			
				+1000--+300	-	-	0.47ohm-0.91ohm			
RMC1/10		0.125		150	±100	10ohm-2.2Mohm	-	-	-	
RMC1/8	0.25	±200	10ohm-10Mohm	10ohm-10Mohm	10ohm-22Mohm					
		+500---200	1ohm-9.76ohm	1ohm-9.1ohm	1ohm-9.1ohm					
		+1000--+300	-	-	0.27ohm-0.91ohm					
		±100	10ohm-1Mohm	-	-					
		±200	10ohm-10Mohm	10ohm-10Mohm	10ohm-24Mohm					
		+500---200	1ohm-9.76ohm	1ohm-9.1ohm	1ohm-9.1ohm					
RMC1/4		±1000--+300	-	-	0.22ohm-0.91ohm					
RMC1/2		0.5	200	±100	10ohm-1Mohm	-	-	-		
				±200	10ohm-10Mohm	10ohm-10Mohm	10ohm-22Mohm			
	+500---200			1ohm-9.76ohm	-	1ohm-9.1ohm				
	+1000--+300			-	-	0.2ohm-0.91ohm				
	±100			10ohm-1Mohm	-	-	-			
	±200			10ohm-1Mohm	10ohm-1Mohm	10ohm-22Mohm				
+500---200	1ohm-9.76ohm			-	1ohm-9.1ohm					
RMC1	1.0			±1000--+300	-	-	-	0.33ohm-0.91ohm		

Note.1 Rated Voltage = $\sqrt{(\text{Rated Dissipation}) \times (\text{Rated Resistance})}$. (d.c. or a.c. r.m.s. Voltage)

Note.2 Limiting Element Voltage can only be applied to resistors when the resistance value is equal to or higher than the critical resistance value.

●Derating Curve

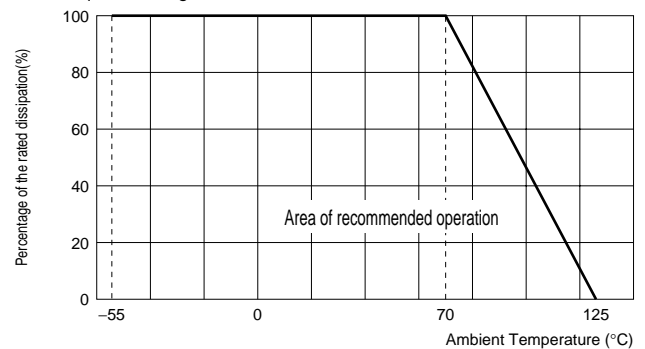
The derated values of dissipation at temperature in excess of 70°C shall be as indicated by the following Curve.

(The load current shall be derated according to Derating Curve in case of the Jumper)

●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 RMC1/10~RMC1 500Va.c., 60s RMC1/16S, 1/16 100Va.c., 60s RMC1/20 50Va.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, 1000h
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, 1000h.
Adhesion	No visible damage	Clause 4.32 5N, 10s (RMC1/20 = 3N)
Bend strength of the face plating	$\Delta R \leq \pm(1\%+0.05\text{ohm})$	Clause 4.33 Amount of bend RMC 1/20, 1/16S, 1/16, 1/10, 1/8, 1/4 : 3mm RMC1/2, 1 : 1mm