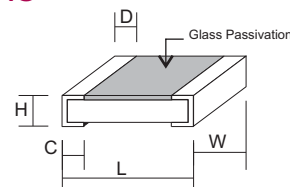


**INTRODUCTION**

RFE International, Inc. offers a wide range of chip resistors to meet your application requirements. The RMS Series is the Anti-Sulfur version of the basic RM Series. These resistors are AEC-Q200 qualified and are suitable for all applications (automotive, lighting, power, etc).

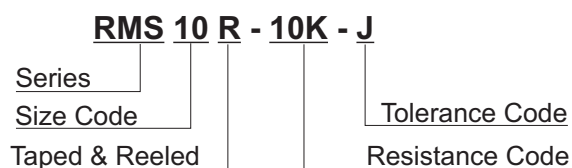
- Thick Film see RM Series
- High Power Thick Film see RMH Series
- Anti-Sulfur High Power see RMP Series
- Fusible Resistors see RMF Series
- Thick Film Array Chip see RCN Series
- Thin Film see RMT Series
- Metal Array Low-Resistance see LR Series

**DIMENSIONS**



Size Code	Max. Dimension (mm)				
	L	W	H	C	D
RMS04 (0402)	1.00±0.10	0.50±0.05	0.30±0.05	0.15±0.10	0.15±0.10
RMS06 (0603)	1.60±0.20	0.80±0.15	0.40±0.10	0.20±0.10	0.20±0.10
RMS10 (0805)	2.00±0.20	1.25±0.15	0.50±0.15	0.30±0.15	0.40±0.15
RMS12 (1206)	3.05±0.10	1.60±0.20	0.55±0.15	0.40±0.20	0.50±0.20
RMS25 (1210)	3.05±0.10	2.50±0.20	0.55±0.15	0.50±0.20	0.50±0.20
RMS50 (2010)	5.00±0.20	2.50±0.20	0.55±0.10	0.60±0.20	0.60±0.20
RMS50S (1812)	4.50±0.10	3.00±0.10	0.55±0.05	0.55±0.20	0.70±0.20
RMS1W (2512)	6.30±0.20	3.20±0.20	0.55±0.10	0.60±0.20	0.60±0.20
RMS1WS (1218)	3.10±0.10	4.60±0.10	0.55±0.05	0.40±0.20	0.50±0.20
RMS2W (2030)	5.10±0.10	7.60±0.10	0.60±0.05	0.80±0.20	0.80±0.20

**PART NUMBER EXAMPLE**



**RESISTANCE CODE**

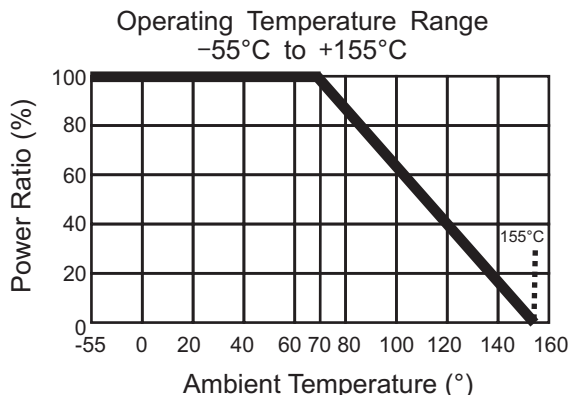
Ohms	0.0	1.0	100	1.5K	15K	1.5 Meg	10 Meg
Code	0R0	1R0	100R	1K5	15K	1M5	10M

**SIZE CODE & RESISTANCE RANGE**

Code	Size	Rated Power at 70°C	Max. Working Voltage	Max. Overload Voltage	T.C.R. (PPM/°C)	Resistance Range		
						B (±0.1%) D (±0.5%)	F (±1%)	J (±5%)
RMS04	0402	0.063W	50V	100V	0 ~ +400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±300	—	10Ω ~ 990Ω	10Ω ~ 990Ω
					±200	10Ω ~ 1MΩ	1KΩ ~ 10MΩ	1KΩ ~ 10MΩ
RMS06	0603	0.10W	50V	100V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS10	0805	0.125W	150V	300V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS12	1206	0.25W	200V	400V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS25	1210	0.33W	200V	400V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS50	2010	0.50W	200V	400V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS50S	1812	0.50W	200V	400V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS1W	2512	1.0W	250V	500V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS1WS	1218	1.0W	250V	500V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—
RMS2W	2030	2.0W	250V	500V	±400	—	1Ω ~ 9.9Ω	1Ω ~ 9.9Ω
					±200	—	—	10Ω ~ 10MΩ
					±100	10Ω ~ 1MΩ	10Ω ~ 10MΩ	—

■ **PERFORMANCE CHARACTERISTICS**

■ **Power Derating Curve**



Power rating or current rating is in the case based on continuous full-load at ambient temperature of 70°C. For operation at ambient temperature in excess of 70°C, the load should be derated in accordance with figure of derating Curve.

■ **Voltage Rating or Current Rating**

Resistance Range:  $\geq 1\Omega$

Rated Voltage: The resistor shall have a DC continuous working voltage or a RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as determined formula as follows:

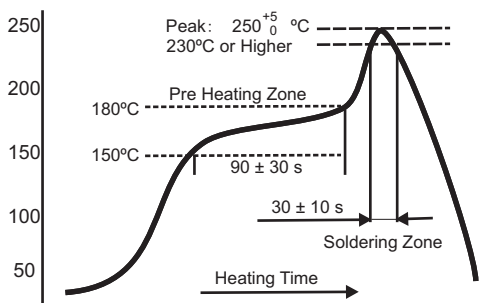
$$E = \sqrt{P \times R}$$

E = Rated Voltage (V)  
 P = Power Rating (W)  
 R = Nominal Resistance ( $\Omega$ )

■ **Operation and Storage Temperature**

	MIN	MAX
Operation temperature	-55°C	70°C
Storage temperature	20°C	30°C
Storage humidity	30%	70°C

■ **Soldering Profile**

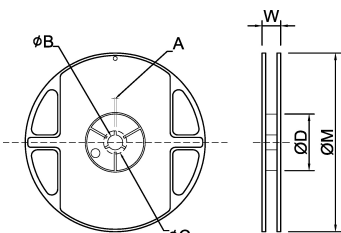


**TEST PROCEDURES & REQUIREMENTS**

Test Item	Test Method	Procedure	Requirements
Temperature Coefficient of Resistance (T.C.R.)	JIS C 5201-1 Clause 4.8	-55°C ~ +155°C, 20°C is the reference temperature	Refer to Ratings
Short Time Overload	JIS C 5201-1 Clause 4.13	General: 2.5 times RCWV or Max. Overload voltage for 5 seconds High Power: 2.5 times RCWV or Max. Overload voltage for 2 seconds	±1: ±(1.0%+0.05Ω) ±5: ±(2.0%+0.1Ω)
IR Reflow	Sony SS-00254		±1: ±(1.0%+0.05Ω) ±5: ±(2.0%+0.1Ω)
Leaching	Sony SS-00254-9	260 ±5°C for 30 seconds	> 95% Coverage
Soldering Heat	JIS C 5201-1 Clause 4.18	260 ±5°C for 10 seconds	±1: ±(0.5%+0.05Ω) ±5: ±(1.0%+0.05Ω)
Temperature Cycling	JIS C 5201-1 Clause 4.19	-55°C ~ +155°C, 5 cycles	0.1% ' 0.5% ' 1% ±(0.5%+0.05Ω) 2% ' 5% ±(1.0%+0.1Ω)
Electric Iron	Sony SS-00254-5	Preheating temperature: 350 ± 5°C Electric Iron preheating time: 3 +1/-0 sec.	±1: ±(0.5%+0.05Ω) ±5: ±(1.0%+0.05Ω)
Resistance to Solvent	JIS C 5201-1 Clause 4.29	The tested resistor be immersed into isopropyl alcohol of 20~25°C for 60 seconds. Then the resistor is left in the room for 48 hours.	±1: ±(0.5%+0.05Ω) ±5: ±(1.0%+0.05Ω)
Load Life in Humidity	JIS C 5201-1 Clause 4.24	40 ± 2°C, 90~95% R.H. or Max. working voltage for 1000 hours with 1.5 hrs "ON" and 0.5hr "OFF".	0.1% ' 0.5% ' 1% ±(0.5%+0.05Ω) 2% ' 5% ±(3.0%+0.1Ω)
Load Life (Endurance)	JIS C 5201-1 Clause 4.25	70 ± 2°C, or Max. working voltage for 1000 hours with 1.5 hrs "ON" and 0.5hr "OFF".	0.1% ' 0.5% ' 1% ±(1.0%+0.05Ω) 2% ' 5% ±(3.0%+0.1Ω)
Terminal Bending Strength	JIS C 5201-1 Clause 4.33	Bending once for 5 seconds D: RMS Series 0402 ' 0603 ' 0805 = 5mm RMS Series 1206 ' 1210 ' 1812 = 3mm RMS Series 1218 ' 2010 ' 2512 = 2mm	±1: ±(1.0%+0.05Ω) ±5: ±(1.0%+0.05Ω)
Insulation Resistance	JIS C 5201-1 Clause 4.6	Max Overload Voltage for 1 min.	≥ 10G

■ **PACKAGE & DIMENSION (mm)**

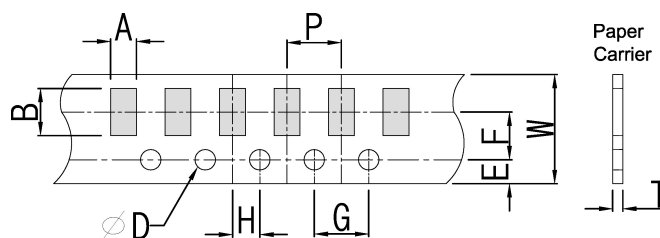
Unit:mm



Size	Package Q'ty	A	øB	øC	øD	W	øM
RMS04(0402)	7" 10K/reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
RMS06(0603) RMS10(0805) RMS12(1206)	7" 5K/reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
	10" 10K/reel	2.0±0.5	13.5±1.0	21±1.0	100±1.0	11.5±2.0	254±2.0
	13" 20K/reel	2.0±0.5	13.5±1.0	21±1.0	100±1.0	11.5±2.0	330±2.0
RMS25(1210)	7" 5K/reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
RMS50(2010)	7" 4K/reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	16.0±2.0	178±2.0
RMS50S(1812)							
RMS1W(2512)							
RMS1WS(1218)							
RMS2W(2030)							

■ **TAPING SPECIFICATION**

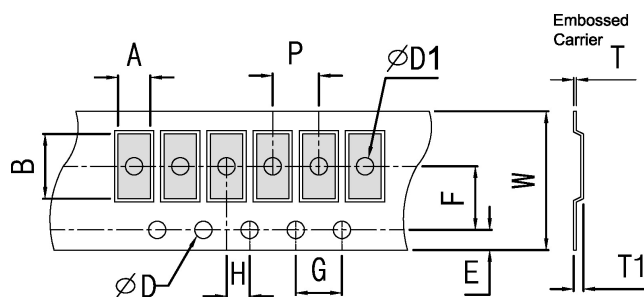
Paper Type  
(P= 2.0 ± 0.1)



Unit:mm

Size	A	B	W	E	F	G	H	T	øD
RMS04(0402)	0.70±0.10	1.20±0.10	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	0.45±0.10	1.50±0.10
RMS06(0603)	1.05±0.20	1.80±0.20	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	0.60±0.10	1.50±0.10
RMS10(0805)	1.55±0.20	2.30±0.20	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	0.75±0.10	1.50±0.10
RMS12(1206)	1.90±0.20	3.50±0.20	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	0.75±0.10	1.50±0.10
RMS25(1210)	2.85±0.20	3.50±0.20	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	0.75±0.10	1.50±0.10

Embossed Type  
(P= 4.0 ± 0.1)  
(2W, P= 8.0 ± 0.2)



Unit:mm

Size	A	B	W	E	F	G	H	T	øD	øD1	T1
RMS50(2010)	2.80±0.20	5.60±0.20	12±0.10	1.75±0.10	5.5±0.05	4.0±0.10	2.0±0.05	0.23±0.10	1.50±0.10	1.50±0.10	0.85±0.15
RMS50S(1812)	3.40±0.20	6.70±0.20	12±0.10	1.75±0.10	5.5±0.05	4.0±0.10	2.0±0.05	0.23±0.10	1.50±0.10	1.50±0.10	0.85±0.15
RMS1W(2512)	3.30±0.20	4.60±0.20	12±0.10	1.75±0.10	5.5±0.05	4.0±0.10	2.0±0.05	0.23±0.10	1.50±0.10	1.50±0.10	0.85±0.15
RMS1WS(1218)	3.30±0.20	4.60±0.20	12±0.10	1.75±0.10	5.5±0.05	4.0±0.10	2.0±0.05	0.23±0.10	1.50±0.10	1.50±0.10	0.85±0.15
RMS2W(2030)	5.50±0.20	7.90±0.20	16±0.10	1.75±0.10	7.5±0.05	4.0±0.10	2.0±0.05	0.25±0.10	1.50±0.10	1.50±0.10	0.85±0.15