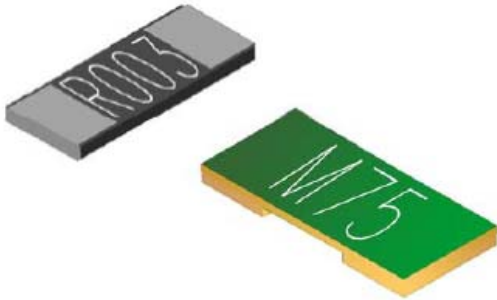


RMS Series

Ultra Low Ohmic Chip Resistor – Metal Strip Type

TRIGON
COMPONENTS

Resistor



FEATURES

- High Wattage Rating Up to 3W
- Low TCR ± 0 to 150 ppm/ °C
- Resistance Values from 0.5 to 20 m ohms
- Without Laser Trimmed with Very Low Inductance
- Customized Resistance Available
- RoHS Compliant.

APPLICATIONS

- NB (for Power Management)
- MB (for Power Management)
- SWPS (DC-DC Converter , Charger, Adaptor)
- Monitor (for Power Management)

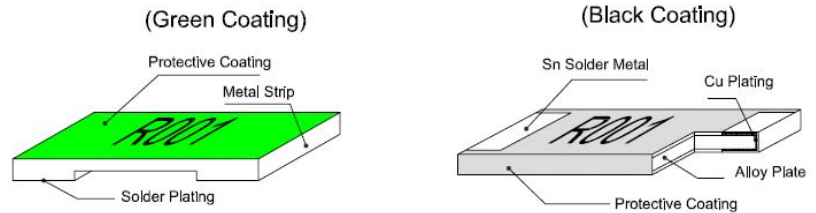
ORDERING CODE

RMS 12 R003 J E E B T
(1) (2) (3) (4) (5) (6) (7) (8)

- (1) Ultra Low Chip Resistor
- (2) Element Size
12 : 2512
- (3) Resistance (table 2)
- (4) Tolerance
F: $\pm 1\%$ G: $\pm 2\%$ H: $\pm 3\%$ J: $\pm 5\%$
- (5) Power Rating (table 1)
- (6) T.C.R.
E: ± 50 PPM/ °C W: ± 75 PPM/ °C
F: ± 100 PPM/ °C K: ± 150 PPM/ °C
- (7) Protective Coating
B: Black Coating
G: Green Coating
- (8) Packaging
T: Taping Reel

✳️ Please refer to complete
Ordering Code (RMS-Ord) for more
ordering options.

Construction



Derating Curve

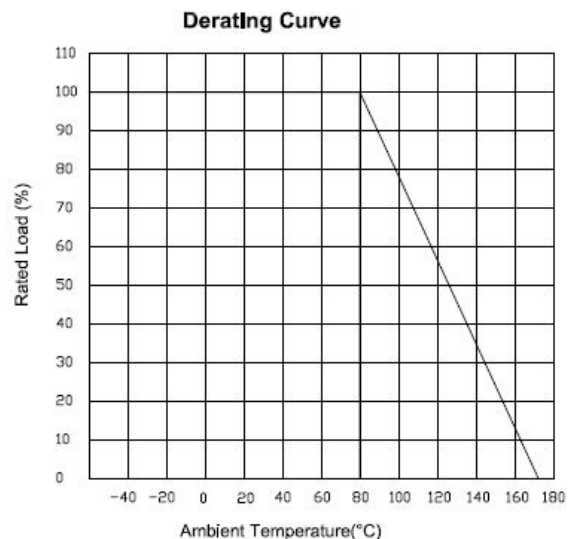


Table1: Power Rating

Codes	Type
D	Standard (1W)
E	2W
E5	2.5W
F	3W

Table2: Resistance

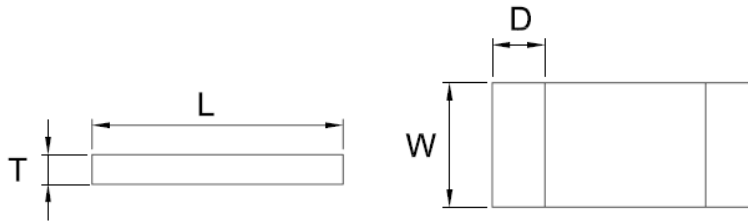
Codes	Type
0M50	0.00050Ω
0M75	0.00075Ω
1M50	0.0015Ω
R002	0.0020Ω
R020	0.0200Ω

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Dimensions



Item Type	Resistance (mΩ)	L (mm)	W (mm)	T (mm)	D (mm)
RMS12 □□□□□GT	0.50~0.75	6.35 ± 0.25	3.18 ± 0.35	1.00 ± 0.20	1.93 ± 0.75
RMS12 □□□□□GT	1.0~20	6.35 ± 0.25	3.18 ± 0.35	0.60 ± 0.20	1.93 ± 0.75
RMS120M50□□□BT	0.50	6.35 ± 0.25	3.18 ± 0.25	1.40 ± 0.20	1.30 ± 0.30
RMS120M75□□□BT	0.75	6.35 ± 0.25	3.18 ± 0.25	1.00 ± 0.20	1.30 ± 0.30
RMS12R001□□□BT	1.00	6.35 ± 0.25	3.18 ± 0.25	0.80 ± 0.20	1.30 ± 0.30
RMS121M50□□□BT	1.50	6.35 ± 0.25	3.18 ± 0.25	0.65 ± 0.20	1.30 ± 0.30
RMS12R002□□□BT	2.00	6.35 ± 0.25	3.18 ± 0.25	0.50 ± 0.20	1.30 ± 0.30
RMS122M50□□□BT	2.50	6.35 ± 0.25	3.18 ± 0.25	1.00 ± 0.20	1.30 ± 0.30
RMS12R003□□□BT	3.00	6.35 ± 0.25	3.18 ± 0.25	0.70 ± 0.20	1.30 ± 0.30
RMS123M50□□□BT	3.50	6.35 ± 0.25	3.18 ± 0.25	0.71 ± 0.20	1.30 ± 0.30
RMS12R004□□□BT	4.00	6.35 ± 0.25	3.18 ± 0.25	0.60 ± 0.20	1.30 ± 0.30
RMS124M50□□□BT	4.50	6.35 ± 0.25	3.18 ± 0.25	0.58 ± 0.20	1.30 ± 0.30
RMS12R005□□□BT	5.00	6.35 ± 0.25	3.18 ± 0.25	0.50 ± 0.20	1.30 ± 0.30
RMS125M50□□□BT	5.50	6.35 ± 0.25	3.18 ± 0.25	0.47 ± 0.20	1.30 ± 0.30
RMS12R006□□□BT	6.00	6.35 ± 0.25	3.18 ± 0.25	0.50 ± 0.20	1.30 ± 0.30
RMS126M50□□□BT	6.50	6.35 ± 0.25	3.18 ± 0.25	0.47 ± 0.20	1.30 ± 0.30
RMS12R007□□□BT	7.00	6.35 ± 0.25	3.18 ± 0.25	0.45 ± 0.20	1.30 ± 0.30
RMS12R010□□□BT	10.0	6.50 ± 0.35	3.20 ± 0.25	0.80 ± 0.15	1.90 ± 0.15

RMS Series

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Standard Electrical Specifications

Type \ Item	Power Rating At 80 °C	Operating Temp. Range	Resistance Tolerance(±%)	Resistance (mΩ)	TCR (PPM/ °C)
RMS12□□□□□DEBT	1W	-55 °C~+170 °C	1,3,5	0.5~2.0	50
RMS12□□□□□DKBT	1W	-55 °C~+170 °C	1,3,5	2.5~3.0	150
RMS12□□□□□DFBT	1W	-55 °C~+170 °C	1,3,5	4.0~5.5	100
RMS12□□□□□DWBT	1W	-55 °C~+170 °C	1,3,5	6.0~7.0	75
RMS12 R010□DFBT	1W	-55 °C~+170 °C	1,3,5	10	100
RMS12□□□□□DEGT	1W	-55 °C~+170 °C	1,3,5	8.0~20	50

Operating Current $I = \sqrt{P/R}$: Operating Voltage $V = \sqrt{P \cdot R}$

High Power Rating Electrical Specifications

Type \ Item	Power Rating At 80 °C	Operating Temp. Range	Resistance Tolerance(±%)	Resistance (mΩ)	TCR (PPM/ °C)
RMS12□□□□□EEBT	2.0W	-55 °C~+170 °C	1,3,5	0.5~2.0	50
RMS12□□□□□EEGT	2.0W	-55 °C~+170 °C	1,3,5	7.0~10.0	50
RMS12□□□□□E5EGT	2.5W	-55 °C~+170 °C	1,3,5	4.0~6.0	50
RMS12 R003□FWGT	3.0W	-55 °C~+170 °C	1,3,5	3.0	75
RMS12□□□□□FEGT	3.0W	-55 °C~+170 °C	1,3,5	1.0~2.0	50
RMS12□□□□□FFGT	3.0W	-55 °C~+170 °C	1,3,5	0.5~0.75	100

Operating Current $I = \sqrt{P/R}$, Operating Voltage $V = \sqrt{P \cdot R}$

Resistance code example

Resistance (3 digit marking)

Resistance	0.5mΩ	0.75mΩ
Codes	M50	M75

Resistance (4 digit marking)

Resistance	1mΩ	1.5mΩ	2mΩ	7mΩ	10mΩ
Codes	R001	1M50	R002	R007	R010

RMS Series

Ultra Low Ohmic Chip Resistor – Metal Strip Type

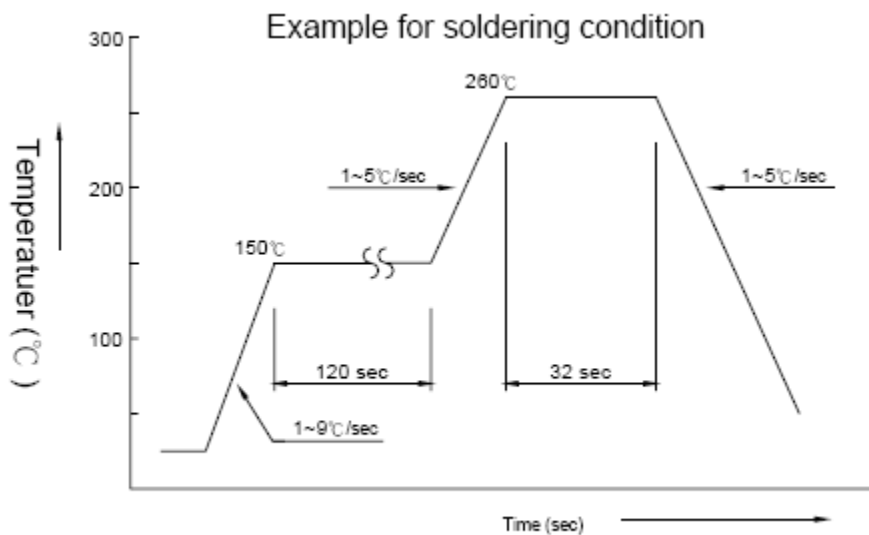
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Electrical Characteristics

Item		Specification		Test Method
		Black Coating	Green Coating	
1	Temperature Coefficient of Resistance	As Spec.		MIL-STD-202F-Method 304 +25/-55/+25/+125/+25 °C
2	Thermal Shock	±0.5%	±1%	MIL-STD-202F-Method 107G -55 °C~150 °C, 100 cycles
3	Short Time Overload	±0.5%	±1%	JIS-C-5202-5.5 5x rated power, 5 seconds
4	Resistance to Dry Heat	±1%	±1%	JIS-C-5202-7.2 96 hours @ +155 °C without load
5	Load Life	±1%	±1%	MIL-STD-202F-Method 108A RCWV, 70 °C, 1.5 hours on, 0.5 hours off, Total 1000~1048 hours
6	Resistance to Soldering Heat	±0.5%	±1%	MIL-STD-202F-Method 210E 260±5 °C , 10±1 seconds
7	Solderability	95% min coverage		MIL-STD-202F-Method 208H 245±5 °C , 5±0.5 seconds

※Storage Temperature : 25±3 °C; Humidity < 80% RH

Reflow



Solder : Sn96.5/Ag3/Cu0.5

RMS Series

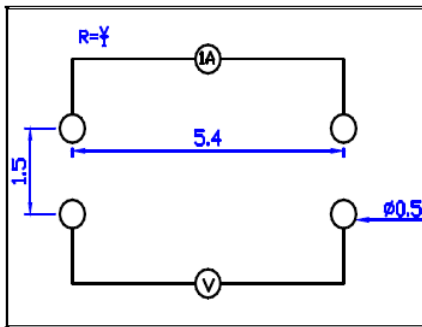
Ultra Low Chip Resistor – Metal Strip Type

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Measurements

4-wire precision measurement

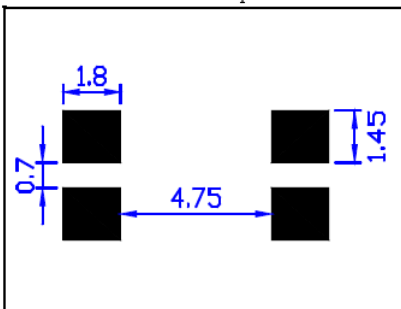
- Equipment: ADEX AX-1152D DC Low Ohm Meter
- Excitation Current: 3A ($0.5\text{m}\Omega \sim 1.5\text{m}\Omega$)
1A ($2\text{m}\Omega \sim 7\text{m}\Omega$)



Unit: mm

4-wire pad layout (recommended for precision current sensing)

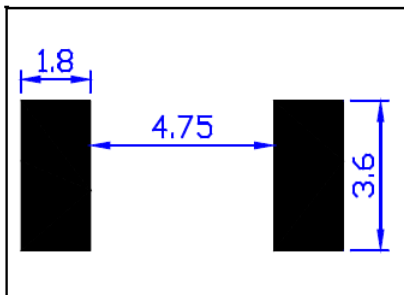
- Note: No circuits between pads to avoid short circuit



Unit: mm

2-wire pad layout

- Note: No circuits between pads to avoid short circuit



Unit: mm

RMS Series

Ultra Low Chip Resistor – Metal Strip Type

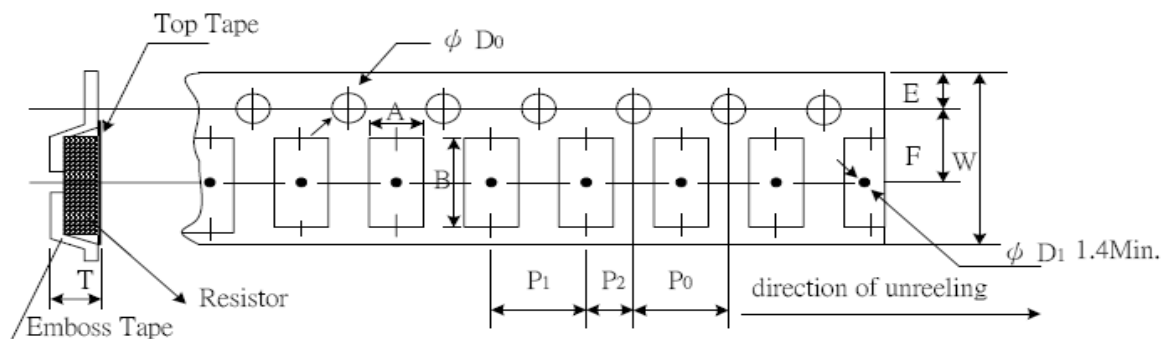
Packaging

Package Quantity

Unit : pcs

Series	Packaging	Emboss Plastic Tape
	12	2000

Emboss Plastic Tape Specifications



Unit : mm

Resistance (mΩ)	A	B	W	E	F	P1	P2	P0	D0	T
0.50	3.40 ± 0.1	6.70 ± 0.1	12.0 ± 0.2	1.75 ± 0.1	5.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.05	4.0 ± 0.05	1.5 ± 0.1	1.40 ± 0.1
0.75	3.50 ± 0.1	6.80 ± 0.1	12.0 ± 0.2	1.75 ± 0.1	5.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.05	4.0 ± 0.05	1.5 ± 0.1	1.35 ± 0.1
1~20	3.40 ± 0.1	6.70 ± 0.2	12.0 ± 0.2	1.75 ± 0.1	5.5 ± 0.05	4.0 ± 0.1	2.0 ± 0.05	4.0 ± 0.05	1.5 ± 0.1	0.80 ± 0.1

Notice:

1. The cumulative tolerance of 10 sprocket hole pitch is $\pm 0.2 \text{ mm}$.
2. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.
3. A & B measured 0.3mm from the bottom of the packet.
4. T measured at a point on the inside bottom of the packet to the top surface of the carrier.
5. Pocket position relative to sprocket hole is measured as the true position of the pocket and not the pocket hole.

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