

Pulse Withstanding Thick Film Chip Resistor

Features

- Tolerance from $\pm 0.5\%$ ~ 5%
- High power rating
- Excellent pulse withstanding performance
- Improved working voltage ratings
- Standard package sizes of 0805 ~ 2512
- RoHS compliant

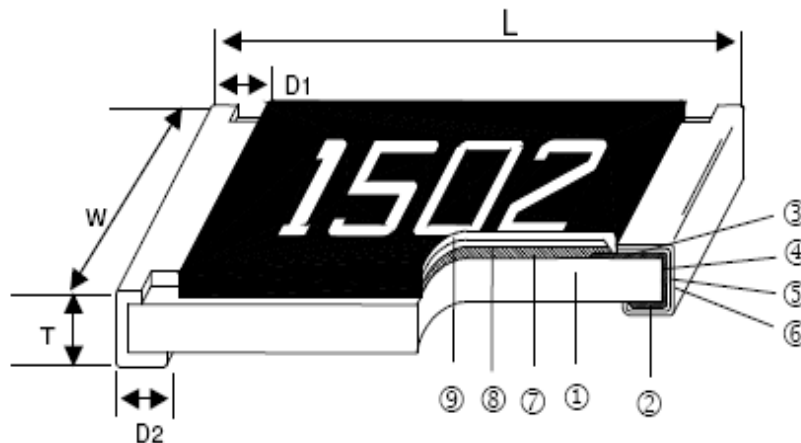


Applications

- Metering (testing/measurement)
- Diagnostic equipment
- Medical devices
- Industrial controls
- Plasma
- LCD video monitors



Constructions



① Alumina Substrate	④ Edge Electrode (NiCr)	⑦ Resistor Layer (RuO ₂ /Ag)
② Bottom Electrode (Ag)	⑤ Barrier Layer (Ni)	⑧ Primary Overcoat (Glass)
③ Top Electrode (Ag-Pd)	⑥ External Electrode (Sn)	⑨ Secondary Overcoat (Epoxy)

Pulse Withstanding Thick Film Chip Resistor

RCP Series

Dimensions

Unit: mm

Type	Size Inch (mm)	L	W	T	D1	D2	Average Weight(mg)
RCP0805	0805(2012)	2.00 ± 0.10	1.25± 0.10	0.50 ± 0.10	0.35 ± 0.20	0.40 ± 0.20	4.368
RCP1206	1206(3216)	3.10 ± 0.10	1.55± 0.10	0.55 ± 0.10	0.50 ± 0.25	0.50 ± 0.20	8.947
RCP2010	2010(5025)	5.00 ± 0.20	2.50± 0.15	0.55 ± 0.10	0.60 ± 0.25	0.50 ± 0.20	24.241
RCP2512	2512(6432)	6.35 ± 0.20	3.20± 0.15	0.55 ± 0.10	0.60 ± 0.25	0.50 ± 0.20	39.448

Marking Information

1. RCP0805~RCP2512:

- 1.1. E-24 series, 3 digits Code, the first two digits are significant figures; the third digit is number of zeros to follow. Letter "R" is as decimal point;
- 1.2. E-96 series, 4 digits Code, the first three digits are significant figures; the fourth digit is number of zeros. Letter "R" is as decimal point;



683 = $68 \times 10^3 \Omega$
= 68K Ω
Item 1.1



6812 = 681×10^2
= 68.1K Ω
Item 1.2

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Absolute Maximum Ratings & Electrical Characteristics

Type	Size (inch)	Tolerance		Power Rating @70°C	MAX. Working Voltage	TCR (PPM/°C)		Resistance Range	Operating Temperature Range
RCP0805	0805	D F G H J	±0.5% ±1% ±2% ±3% ±5%	1/8W	150V	F	±100	300Ω ~ 20MΩ	-55°C~+155°C
						G	±200	10Ω ~ 299Ω	
		F J	±1% ±5%	1/4W		F	±100	300Ω ~ 20MΩ	
				G		±200	10Ω ~ 299Ω		
RCP1206	1206	D F G H J	±0.5% ±1% ±2% ±3% ±5%	1/3W	200V	F	±100	300Ω ~ 20MΩ	-55°C~+155°C
				G		±200	10Ω ~ 299Ω		
		F J	±1% ±5%	1/2W		F	±100	10Ω ~ 100Ω	
RCP2010	2010	D F G H J	±0.5% ±1% ±2% ±3% ±5%	3/4W	400V	F	±100	20.1Ω ~ 20MΩ	-55°C~+155°C
				G		±200	10Ω ~ 20Ω		
		F J	±1% ±5%	1W		F	±100	1KΩ ~ 10KΩ	
RCP2512	2512	D F G H J	±0.5% ±1% ±2% ±3% ±5%	1.5W	500V	F	±100	20.1Ω ~ 20MΩ	-55°C~+155°C
						G	±200	10Ω ~ 20Ω	

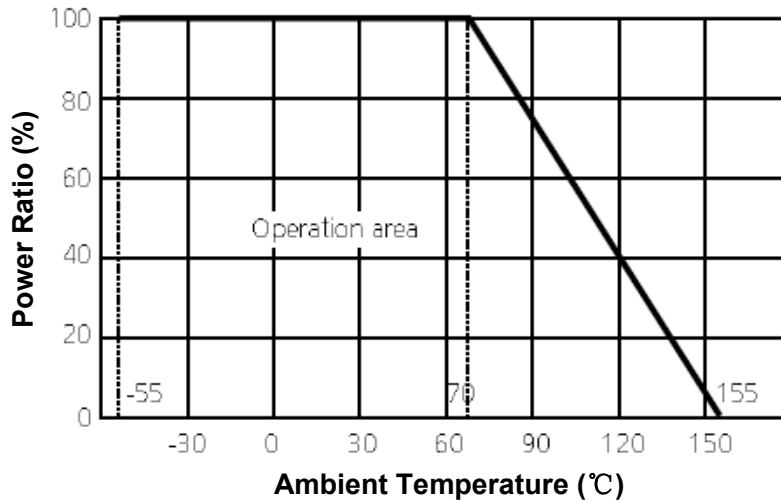
Note: Operating Voltage= $\sqrt{P \cdot R}$ or Max. Operating voltage listed above, whichever is lower.

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Power Derating Curve

For resistors operate in the ambient temperature over 70°C, loading power ratio will derate in accordance with following curve.



Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	+25/-55/+25/+125/+25°C
Short Time Overload	±0.5%	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	>1000MΩ	Apply 100V _{DC} for 1 minute
Endurance	±1%	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±0.5%	40±2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	±0.5%	at +155°C for 1000 hrs
Bending Strength	As Spec.	Bending amplitude 3mm for 10 seconds
Solderability	95% min. coverage	245±5°C for 3 seconds
Resistance to Soldering Heat	±0.5%	260±5°C for 10 seconds
Dielectric Withstand Voltage	As Spec.	Apply Max. overload voltage for 1 minute
Thermal Shock	±0.5%	-55°C ~150°C, 100 cycles
Low Temperature Operation	±0.5%	1 hour, -65°C followed by 45 minutes of RCWV

Note: Reference standards: MIL-STD-202, JIS-C 5201-1;

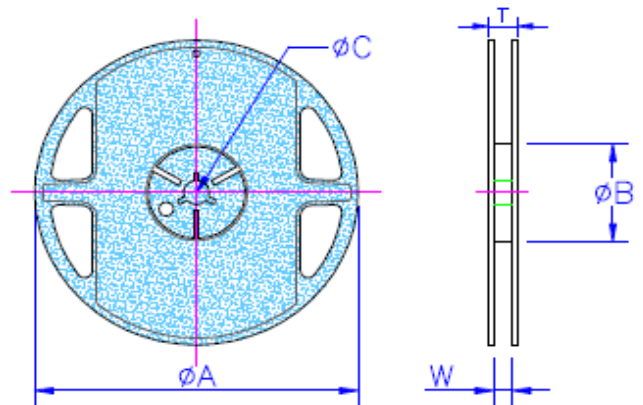
Storage Temperature: 25±3°C; Humidity < 80%RH.

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RCP Series

Packing Information:

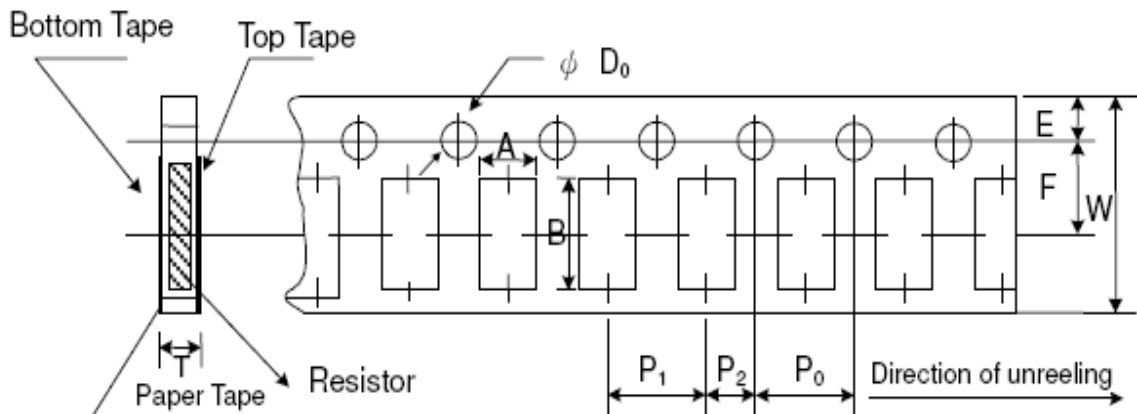
Packaging Quantity & Reel Specifications



Unit: mm

Type	Packaging Qty.	Tape Width	Reel Diameter	ΦA	ΦB	ΦC	W	T
RCP0805 RCP1206	Paper	5K	7inch	178.5 ± 1.5	60.0 + 1.0	13.0 ± 0.2	9.0 ± 0.5	12.5 ± 0.5
		10K	10inch	254.0 ± 1.0	100.0 ± 0.5	13.0 ± 0.2	9.5 ± 0.5	13.5 ± 0.5
		20K	13inch	330.0 ± 1.0	100.0 ± 0.5	13.0 ± 0.2	9.5 ± 0.5	13.5 ± 0.5
RCP2010 RCP2512	Embossed	4K	7inch	178.5 ± 1.5	60.0 + 1.0	13.0 ± 0.5	13.0 ± 0.5	15.5 ± 0.5
		8K	10inch	250.0 ± 1.0	62.0 ± 0.5	13.0 ± 0.5	12.5 ± 0.5	16.5 ± 0.5

Paper Tape Specifications



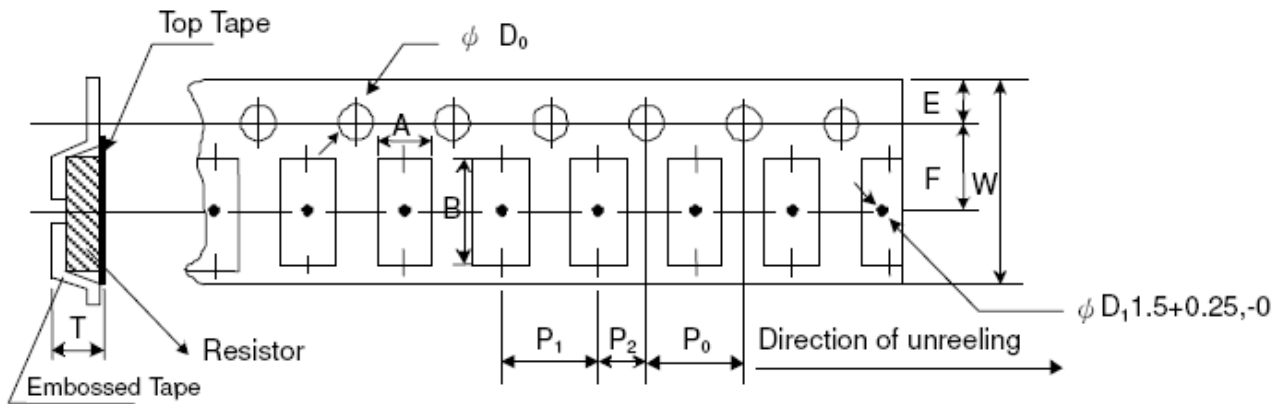
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RCP Series

Unit: mm

Type	A	B	W	E	F	P0	P1	P2	$\psi D0$	T
RCP0805	1.60±0.1	2.40±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	4.0±0.05	2.0±0.05	1.5+0.1/-0	0.85±0.1
RCP1206	1.90±0.1	3.50±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	4.0±0.05	2.0±0.05	1.5+0.1/-0	0.85±0.1

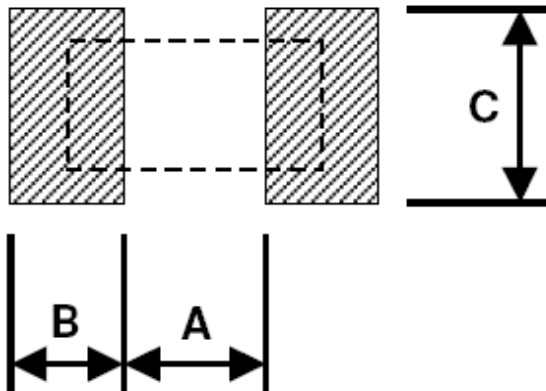
Embossed Plastic Tape Specifications



Unit: mm

Type	A	B	W	E	F	P0	P1	P2	$\psi D0$	T
RCP2010	2.80±0.2	5.50±0.2	12.0±0.3	1.75±0.1	5.5±0.05	4.0±0.1	4.0±0.1	2.0±0.05	1.5+0.1/-0	1.2+0
RCP2512	3.50±0.2	6.70±0.2	12.0±0.3	1.75±0.1	5.5±0.05	4.0±0.1	4.0±0.1	2.0±0.05	1.5+0.1/-0	1.2+0

Recommend Land Pattern



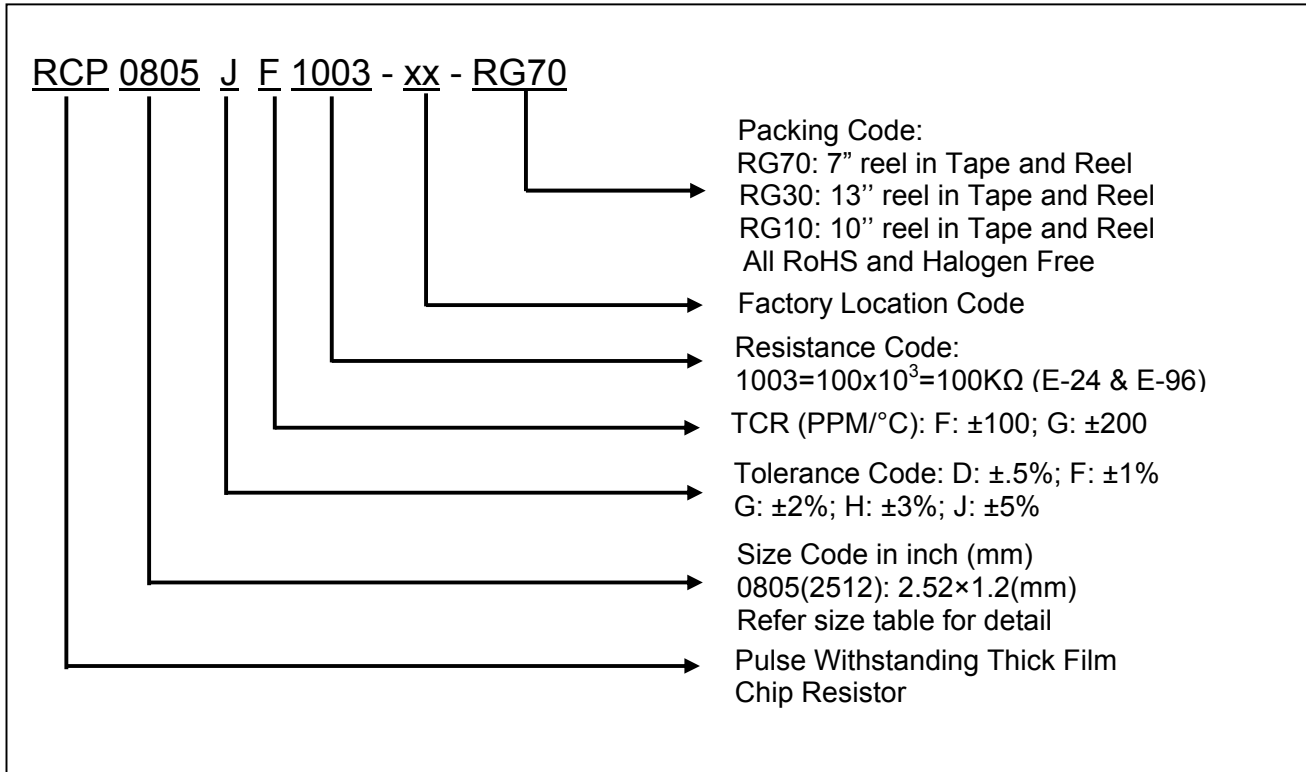
Unit: mm

Type	A	B	C
RCP0805	1.20	0.70	0.70
RCP1206	2.00	0.90	1.60
RCP2010	3.80	0.90	2.80
RCP2512	3.80	1.60	3.50

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How to Order



Pulse Withstanding Thick Film Chip Resistor

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