



Chip Resistor

Anti-Corrosive Thin Film Precision Chip Resistor - PR Series / 抗蚀薄膜精密贴片电阻

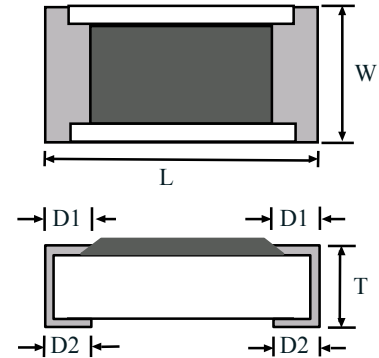
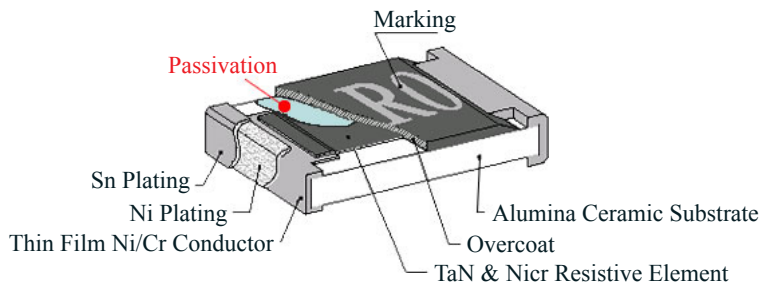
► Precision Chip Resistor Features

Special Passivated NiCr Film for Anti-Acid and Anti-Damp.
 Very Tight Tolerance from $\pm 0.1\%$.
 Extremely Low TCR from ± 25 PPM/ $^{\circ}\text{C}$.
 Wide R-Value Range.

► Applications

Automotive; High-end Computer; Industrial Equipment.
 Automatic Equipment Controller; Medical Equipment.
 Telecommunication Device; High-end Multimedia Electronics.

► Thin Film Precision Chip Resistor Construction



► Chip Thin Film Dimensions (Unit: mm)

Codes	L	W	T	D1	D2
PR02	1.00 \pm 0.05	0.50 \pm 0.05	0.30 \pm 0.05	0.20 \pm 0.10	0.20 \pm 0.10
PR03	1.55 \pm 0.10	0.80 \pm 0.10	0.45 \pm 0.10	0.30 \pm 0.20	0.30 \pm 0.20
PR05	2.00 \pm 0.15	1.25 \pm 0.15	0.55 \pm 0.10	0.30 \pm 0.20	0.40 \pm 0.25
PR06	3.05 \pm 0.15	1.55 \pm 0.15	0.55 \pm 0.10	0.42 \pm 0.20	0.35 \pm 0.25
PR10	4.90 \pm 0.15	2.40 \pm 0.15	0.55 \pm 0.10	0.60 \pm 0.30	0.50 \pm 0.25
PR12	6.30 \pm 0.15	3.10 \pm 0.15	0.55 \pm 0.10	0.60 \pm 0.30	0.50 \pm 0.25

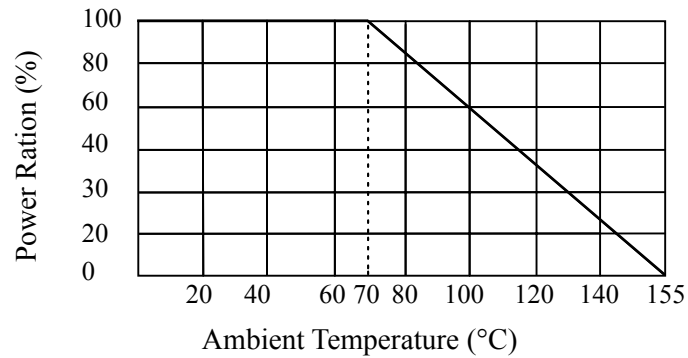
► Standard Electrical Specifications - Precision Chip Resistors

Type	Power Rating at 70 $^{\circ}\text{C}$	Operating Temp. Range	Max Operating Voltage	Max Overloading Voltage	Resistance Tolerance	Resistance Range	TCR (PPM / $^{\circ}\text{C}$)
PR02 (0402)	1/16W	-55 ~ +155 $^{\circ}\text{C}$	25V	50V	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$	25 Ω ~25K Ω	± 25 ± 50
PR03 (0603)	1/16W	-55 ~ +155 $^{\circ}\text{C}$	50V	100V	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$	25 Ω ~200K Ω	± 25 ± 50
PR05 (0805)	1/10W	-55 ~ +155 $^{\circ}\text{C}$	100V	200V	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$	25 Ω ~400K Ω	± 25 ± 50
PR06 (1206)	1/8W	-55 ~ +155 $^{\circ}\text{C}$	150V	300V	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$	25 Ω ~500K Ω	± 25 ± 50
PR10(2010)	1/4W	-55 ~ +155 $^{\circ}\text{C}$	150V	300V	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$	25 Ω ~600K Ω	± 25 ± 50
PR12 (2512)	1/2W	-55 ~ +155 $^{\circ}\text{C}$	150V	300V	$\pm 0.10\%$ $\pm 0.25\%$ $\pm 0.50\%$	25 Ω ~600K Ω	± 25 ± 50



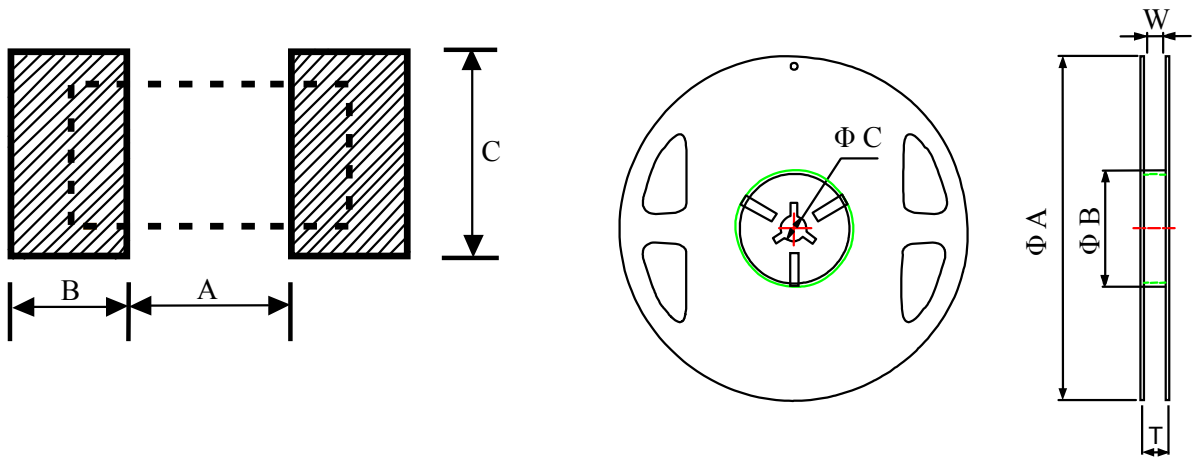
Chip Resistor

Derating Curve



Resistors - Recommend Land Pattern (Unit: mm)

Codes	A	B	C
PR12	4.90	1.60	3.10±0.2
PR10	3.60	1.40	2.50±0.2
PR06	2.00	1.15	1.70±0.2
PR05	1.00	1.00	1.35±0.2
PR03	0.80	1.00	0.90±0.2
PR02	0.50	0.50	0.60±0.2



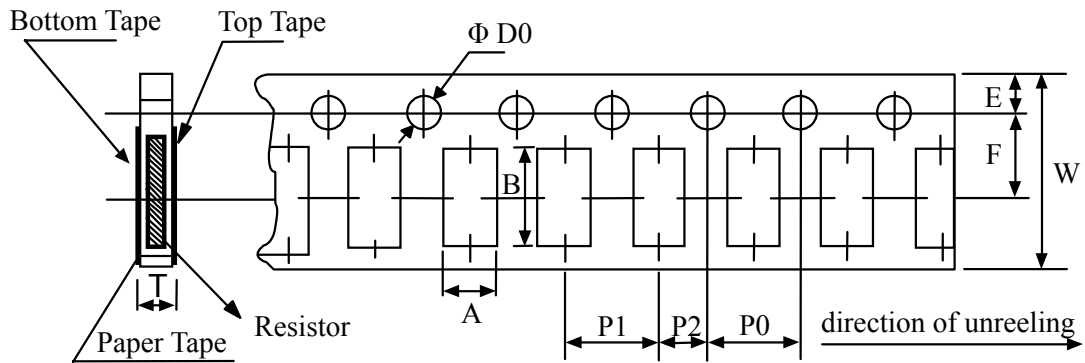
Packaging Quantity & Reel Specifications (Unit: mm) - Precision Chip Resistors

Codes	ΦA	ΦB	ΦC	W	T	Paper Tape (PCS)	Emboss Plastic Tape (PCS)
PR02	178±1	60.0±0.5	13.0±0.20	9.00±0.50	12.0±0.15	10,000	-
PR03	178±1	60.0±0.5	13.0±0.20	9.00±0.50	12.0±0.15	5,000	-
PR05	178±1	60.0±0.5	13.0±0.20	9.00±0.50	12.0±0.15	5,000	-
PR06	178±1	60.0±0.5	13.0±0.20	9.00±0.50	12.0±0.15	5,000	-
PR10	178±1	60.2±0.5	13.0±1.00	13.2±0.50	16.0±0.20	-	4,000
PR12	178±1	60.2±0.5	13.0±0.50	13.2±0.50	16.0±0.20	-	4,000



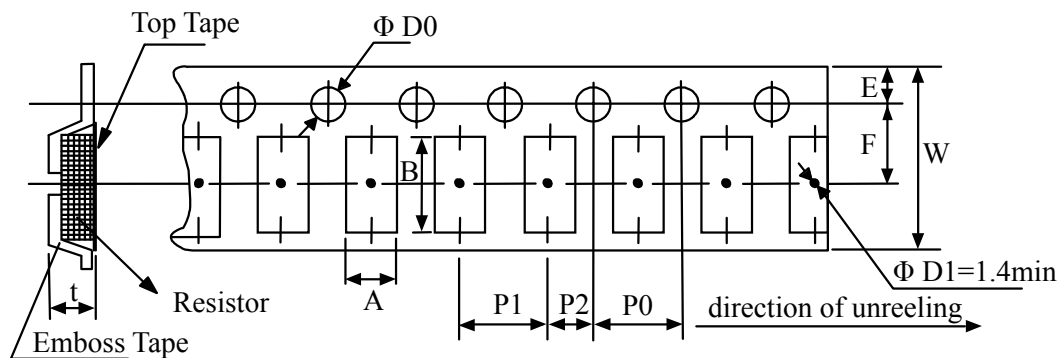
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► Paper Tape Specifications (Unit: mm)



Codes	A	B	W ±0.10	E ±0.05	F ±0.05	P0 ±0.10	P1	P2 ±0.05	ΦD0	T
PR02	0.67±0.03	1.15±0.03	8.00	1.75	3.5	4.00	2.00±0.05	2.00	1.54±0.03	0.40±0.03
PR03	1.10±0.05	1.90±0.05	8.00	1.75	3.5	4.00	4.00±0.10	2.00	1.55±0.05	0.60±0.03
PR05	1.60±0.05	2.37±0.05	8.00	1.75	3.5	4.00	4.00±0.10	2.00	1.55±0.05	0.75±0.05
PR06	2.00±0.05	3.55±0.05	8.00	1.75	3.5	4.00	4.00±0.10	2.00	1.55±0.05	0.75±0.05

► Resistors - Emboss Plastic Tape Specifications (Unit: mm)



Codes	A	B	W	E	F	P0	P1	P2	ΦD0	T
PR10	2.85 ±0.10	5.45 ±0.10	12.0 ±0.10	1.75 ±0.10	5.5 ±0.05	4.00 ±0.05	4.00 ±0.10	2.00 ±0.05	1.50 +0.10	1.00 ±0.20
PR12	3.40 ±0.10	6.65 ±0.10	12.0 ±0.10	1.75 ±0.10	5.5 ±0.05	4.00 ±0.05	4.00 ±0.10	2.00 ±0.05	1.50 +0.10	1.00 ±0.20



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► Environmental Characteristics - Precision Chip Resistors

Test Item	Specification		Test Method
	Size 0603/ 0805/ 1206/ 2010/ 2512	Size 0402	
Short Time Overload	≤ ±0.02%	≤ ±0.1%	RCWV*2.5 or Max Overloading Voltage, 2 seconds
Thermal Shock	≤ ±0.02%	≤ ±0.1%	MIL-STD-202F Method 107G -55°C~125°C, 100 cycles
Load Life	≤ ±0.05%	≤ ±0.25%	MIL-STD-202F Method 108A RCWV, 70°C, 1.5 hours ON, 0.5 hours OFF, total 1000~1048 hours
Humidity(Steady State)	≤ ±0.05%	≤ ±0.5%	MIL-STD-202F Method 103B 40°C , 90~95%RH, RCWV 1.5 hours ON, 0.5 hours OFF, total 1000~1048hours
Resistance to Dry Heat	≤ ±0.05%	≤ ±0.5%	JIS-C-5202-7.2 1000 hours @ +125°C without load
Resistance to Soldering Heat	≤ ±0.02%	≤ ±0.1%	MIL-STD-202F Method 210E 260±°C, 10±1seconds

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

► How to Order

PR	03	D	T	D	1000
①	②	③	④	⑤	⑥

① Product Type

② Dimensions(L×W)

Code	Dimensions(L×W)
02	1.00×0.50mm
03	1.60×0.80mm
05	2.00×1.25mm
06	3.00×1.50mm
10	4.90×2.40mm
12	6.30×3.10mm

③ Resistance Tolerance

Code	Resistance Tolerance
B	±0.10%
C	±0.25%
D	±0.50%

④ Packaging

Code	Packaging
T	Taping Reel
B	Bulk

⑤ TCR

Code	TCR
C	±25ppm
D	±50ppm

⑥ Resistance

Code	Resistance
1000	100Ω
2201	2200Ω
1002	10000Ω
4992	49900Ω
1003	100000Ω

