Chip Resistor

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

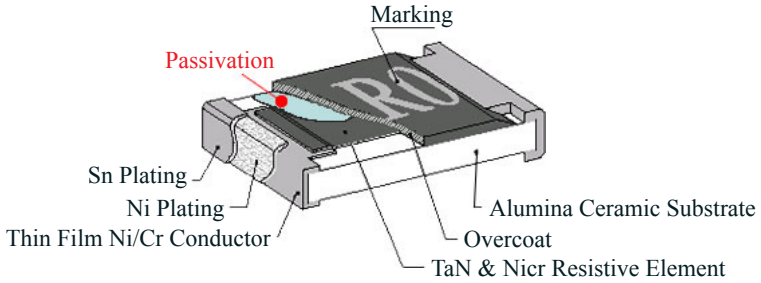
Precision Chip Resistor Features

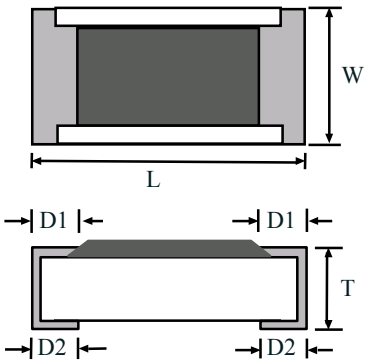
Special Passivated NiCr Film for Anti-Acid and Anti-Damp.
Very Tight Tolerance from ±0.1%.
Extremely Low TCR from ±25 PPM/°C.
Wide R-Value Range.

Applications

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

Thin Film Precision Chip Resistor Construction





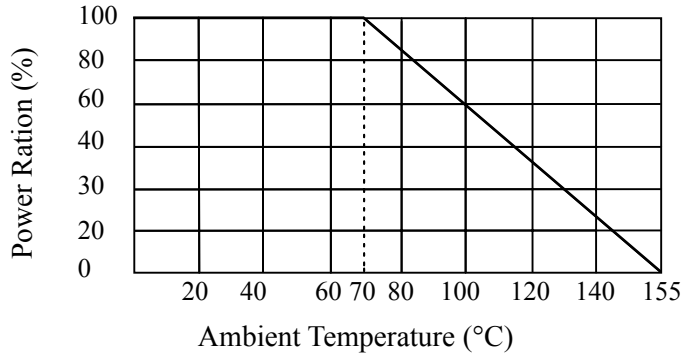
Chip Thin Film Dimensions (Unit: mm)

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

Standard Electrical Specifications - Precision Chip Resistors

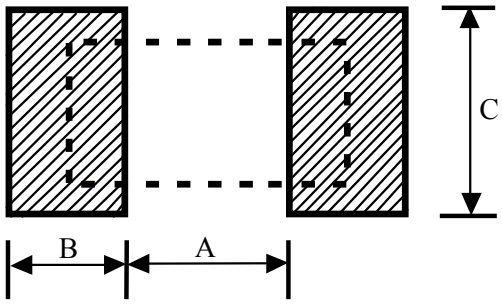
Type	Power Ratingat 70°C	Operating Temp. Range	Max Operating Voltage	Max Overloaing Voltage	Resistance Tolerance	Resistance Range	TCR (PPM / °C)
PR02 (0402)	1/16W	-55 ~ +155°C	25V	50V	±0.10% ±0.25% ±0.50%	25Ω~25KΩ	±25 ±50
PR03 (0603)	1/16W	-55 ~ +155°C	50V	100V	±0.10% ±0.25% ±0.50%	25Ω~200KΩ	±25 ±50
PR05 (0805)	1/10W	-55 ~ +155°C	100V	200V	±0.10% ±0.25% ±0.50%	25Ω~400KΩ	±25 ±50
PR06 (1206)	1/8W	-55 ~ +155°C	150V	300V	±0.10% ±0.25% ±0.50%	25Ω~500KΩ	±25 ±50
PR10(2010)	1/4W	-55 ~ +155°C	150V	300V	±0.10% ±0.25% ±0.50%	25Ω~600KΩ	±25 ±50
PR12 (2512)	1/2W	-55 ~ +155°C	150V	300V	±0.10% ±0.25% ±0.50%	25Ω~600KΩ	±25 ±50

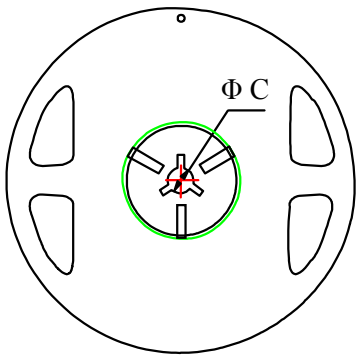
Derating Curve

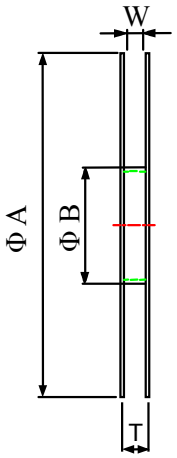


Resistors - Recommend Land Pattern (Unit: mm)

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



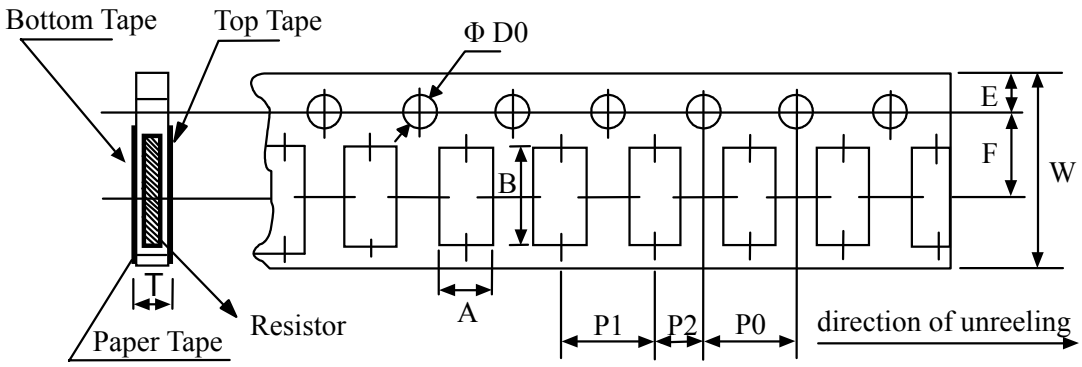




Packaging Quantity & Reel Specifications (Unit: mm) - Precision Chip Resistors

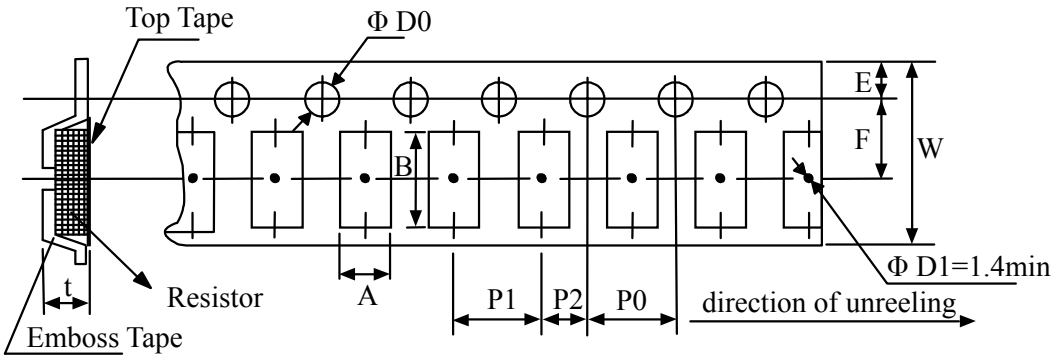
Codes	ΦA	ΦB	ΦC	W	T	Paper Tape (PCS)	Emboss Plastic Tape (PCS)
PR02	178±1	60.0+0.5	13.0±0.20	9.00±0.50	12.0±0.15	10,000	-
PR03	178±1	60.0+0.5	13.0±0.20	9.00±0.50	12.0±0.15	5,000	-
PR05	178±1	60.0+0.5	13.0±0.20	9.00±0.50	12.0±0.15	5,000	-
PR06	178±1	60.0+0.5	13.0±0.20	9.00±0.50	12.0±0.15	5,000	-
PR10	178±1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

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

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
❶	❷	❸	❹	❺	❻

❶ Product Type

❷ 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

❸ Resistance Tolerance

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

❹ Packaging

Code	Packaging
T	Taping Reel
B	Bulk

❺ TCR

Code	TCR
C	±25ppm
D	±50ppm

❻ Resistance

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