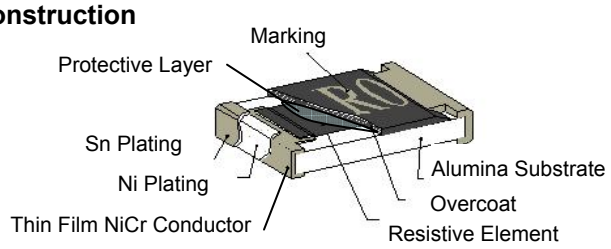
Pulse Withstanding Chip Resistor - PWR Series

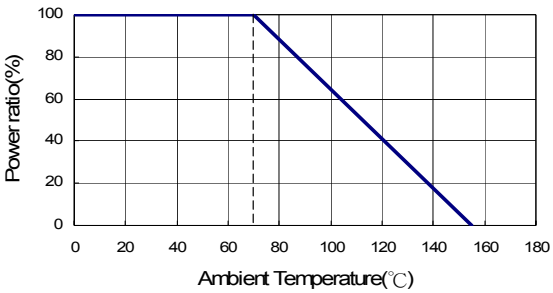
Features
- Tolerance from ±0.5%~5%
- High power rating
- Excellent pulse withstanding performance
- Improved working voltage ratings
- Standard package sizes of 2010 , 2512

Applications
- Metering (Testing/Measurement)
- Diagnostic Equipment
- Medical Devices
- Industrial Controls
- Plasma
- LCD Video Monitors

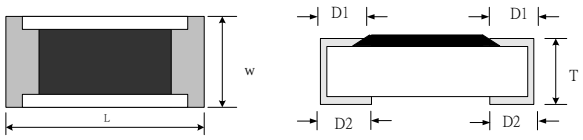
Construction



Derating Curve



Dimensions



Unit：mm

Codes	L	W	T	D1	D2
PWR12	6.30±0.15	3.10±0.15	0.55±0.10	0.60±0.30	0.50±0.25
PWR10	5.00±0.20	2.45±0.15	0.60±0.15	0.60±0.30	0.50±0.25

Part Numbering

PWR	12	F	T	E	A	1000	N
①	②	③	④	⑤	⑥	⑦	⑧

①Product Type

Product Type	
PWR	Pulse Withstanding Chip Resistors

②Dimensions (L x W)

Codes	Dimensions (LxW)	EIA
12	6.30×3.10mm	2512
10	5.00×2.45mm	2010

③Resistance Tolerance

Codes	Resistance Tolerance
D	±0.5%
F	±1%
G	±2%
H	±3%
J	±5%

④Packaging

Code	Type
B	Bulk
T	Taping Reel

⑤TCR

Codes	Type
E	±100PPM/℃

⑥Power Rating

Codes	Type
A	1.5W
Q	3/4W

⑦Resistance

Codes	Type
1001	1KΩ
1004	1MΩ
1005	10MΩ

⑧Marking

Codes	Type
	Standard Marking
N	No Marking

Electrical Characteristics Specifications

Item / Type	Power Rating at 70℃	Operating Temp. Range	Max Operating Voltage	Resistance Tolerance	Resistance Range	TCR (PPM/℃)
PWR12 (2512)	1.5W	-55 ~ +155℃	500V	±0.5% ±1.0% ±2.0% ±3.0% ±5.0%	10Ω~20Ω 20.1Ω~10MΩ	±200 ±100
PWR10 (2010)	0.75W	-55 ~ +155℃	400V			

Marking

2010~2512 4digit marking for Example:

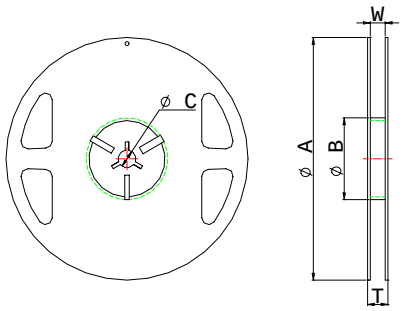
Resistance	100Ω	2.2KΩ	10KΩ	49.9KΩ	100KΩ
marking	1000	2201	1002	4992	1003

Packaging

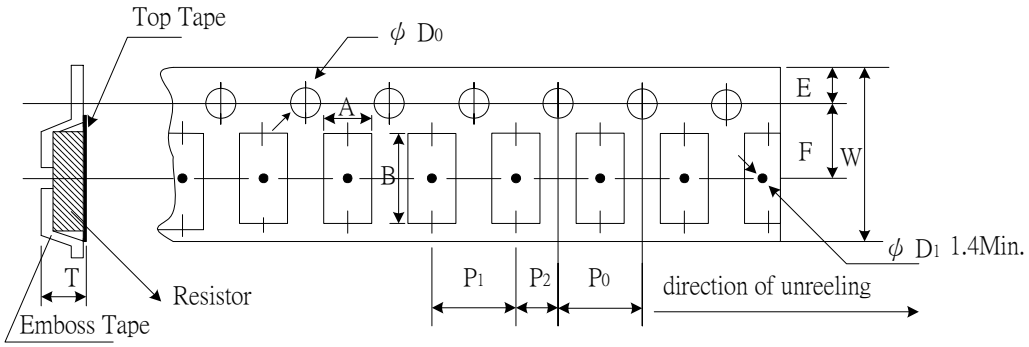
Reel Specifications & Packaging Quantity

Unit :mm

Series	ΦA	ΦB	ΦC	W	T	Emboss Plastic Tape (EA)
PWR12	178.0 ± 1.0	60.0 ± 1.0	13.5 ± 0.7	13.5 ± 1.0	15.5 ± 1.0	4,000
PWR10	178.0 ± 1.0	60.0 ± 1.0	13.5 ± 0.7	13.5 ± 1.0	15.5 ± 1.0	4,000



Emboss Plastic Tape Specifications



Unit: mm

Series	A	B	W	E	F	P_0	P_1	P_2	ΦD_0	T
PWR12	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
PWR10	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

Environmental Characteristics

	Item	Specification	Test Method
1	**Temperature Coefficient of Resistance**	As Spec.	**MIL-STD-202F Method 304** +25/-55/+25/+125/+25℃
2	**Short Time Overload**	±0.5%	**JIS-C-5202-5.5** RCWV*2.5 or Max Overloading Voltage 5 seconds
3	**Dielectric Withstand Voltage**	As Spec.	**MIL-STD-202F Method 301** Apply Max Overload Voltage for I minute
4	**Insulation Resistance**	>1000MΩ	**MIL-STD-202F Method 302** Apply 100VDC for 1minute
5	**Thermal Shock**	±0.5%	**MIL-STD-202F Method 107G** -55℃～150℃,100cycles
6	**Load Life**	±1%	**MIL-STD-202F Method 108A** RCWV, 70℃,1.5 hours on,0.5 hours off Total 1000~1048 hours
7	**Humidity** **（Steady State）**	±0.5%	**MIL-STD-202F Method 103B** 40℃ , 90~95%RH , RCWV 1.5 hours ON , 0.5 hours OFF , total 1000 ~ 1048 hours
8	**Resistance to Dry Heat**	±0.5%	**JIS-C-5202-7.2** 96hours @ +155℃ without load
9	**Low Temperature Operation**	±0.5%	**JIS-C-5202-7.1** 1hour,-65℃followed by 45 minutes of RCWV
10	**Bending Strength**	As Spec.	**JIS-C-5202-6.1.4** Bending Amplitude 3mm for 10 seconds
11	**Solderability**	95%min coverage	**MIL-STD-202F Method 208H** 245℃±5℃,3±0.5（sec）
12	**Resistance to Soldering Heat**	±0.5%	**MIL-STD-202F Method 210E** 260±5℃,10±1 seconds

＊Storage Temperature :25±3℃; Humidity <80%RH