

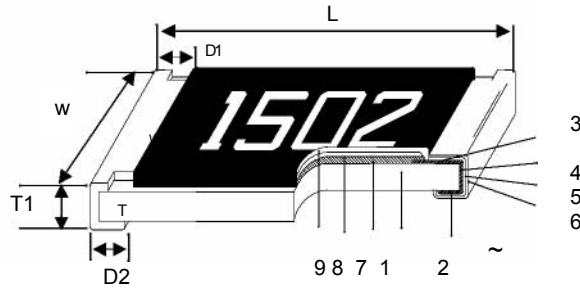
Pulse Withstanding Thick Film Chip Resistor



CPR Series

MERITEK

CONSTRUCTION



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)

FEATURES

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

APPLICATIONS

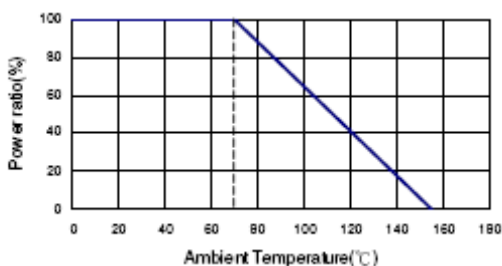
- Metering (Testing/Measurement)
- Diagnostic Equipment
- Medical Devices
- Industrial Controls
- Plasma
- LCD Video Monitors

DIMENSIONS

Unit: mm

Type	Size (Inch)	L	W	T	D1	D2	Weight (g) (1000pcs)
CPR0805	0805	2.00 \pm 0.10	1.25 \pm 0.10	0.50 \pm 0.10	0.35 \pm 0.20	0.40 \pm 0.20	4.368
CPR1206	1206	3.10 \pm 0.10	1.55 \pm 0.10	0.55 \pm 0.10	0.50 \pm 0.25	0.50 \pm 0.20	8.947
CPR2010	2010	5.00 \pm 0.20	2.50 \pm 0.15	0.55 \pm 0.10	0.60 \pm 0.25	0.50 \pm 0.20	24.241
CPR2512	2512	6.35 \pm 0.20	3.20 \pm 0.15	0.55 \pm 0.10	0.60 \pm 0.25	0.50 \pm 0.20	39.448

DERATING CURVE



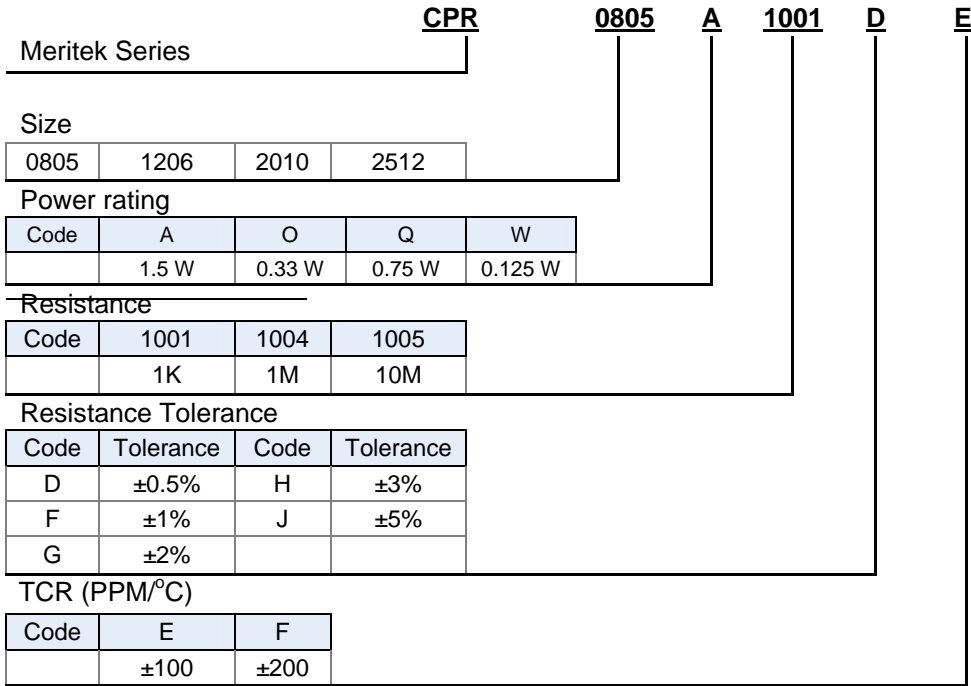
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PART NUMBERING



ELECTRICAL CHARACTERISTICS SPECIFICATIONS

Item Type	Power Rating at 70°C	Operating Temp. Range	Max. Operating Voltage	Resistance Range					TCR (PPM/°C)
				±0.5%	±1%	±2%	±3%	±5%	
CPR0805	0.125W	-55 ~ +155°C	150V	10- 299					±200
				300- 20M					±100
CPR1206	0.33W	-55 ~ +155°C	200V	10- 299					±200
				300- 20M					±100
CPR2010	0.75W	-55 ~ +155°C	400V	10- 20					±200
				20.1- 20M					±100
CPR2512	1.5W	-55 ~ +155°C	500V	10- 20					±200
				20.1- 20M					±100

Operating Voltage= $\sqrt{(P * R)}$ or Max. operating voltage listed above, whichever is lower.

Overload Voltage= $2.5 * \sqrt{(P * R)}$ or Max. overload voltage listed above, whichever is lower.

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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	>1000M	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

- Reference Standards: MIL-STD-202, JIS-C 5201 -1
- Storage Temperature: 25±3°C; Humidity < 80%RH

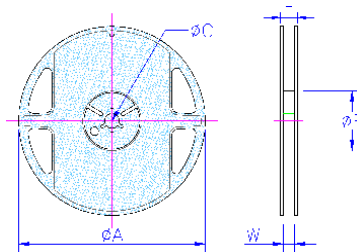
MARKING

0805~2512 4 digits marking for Example

Resistance	100	2.2K	10K	49.9K	100K
marking	1000	2201	1002	4992	1003

PACKAGING

Reel Specifications & Packaging Quantity



Unit: mm

Type	Packaging Quantity	Tape width	Reel Diameter	øA	øB	øC	W	T	
CPR0805 CPR1206	Paper	5K	8mm	7 inch	178.5±1.5	60 ^{+1/-0}	13.0±0.2	9.0±0.5	12.5±0.5
		10K		10 inch	254±1	100±0.5	13.0±0.2	9.5±0.5	13.5±0.5
		20K		13 inch	330±1	100±0.5	13.0±0.2	9.5±0.5	13.5±0.5
CPR2010 CPR2512	Embossed	4K	12mm	7 inch	178.5±1.5	60 ^{+1/-0}	13.0±0.5	13.0±0.5	15.5±0.5
		8K		10 inch	250±1	62±0.5	13.0±0.5	12.5±0.5	16.5±0.5

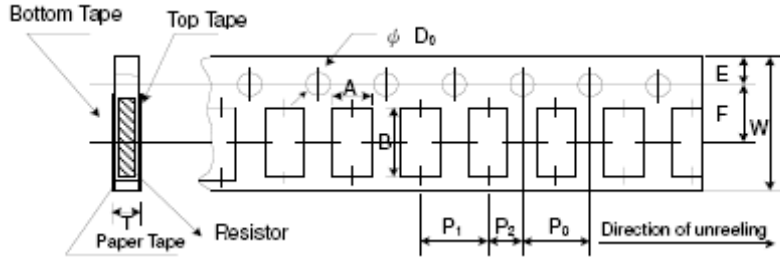
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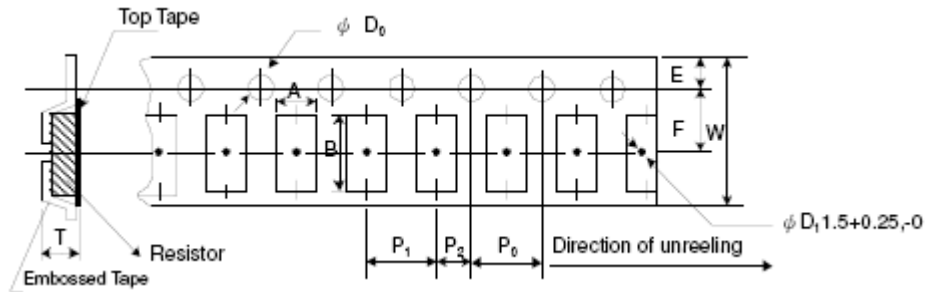
Paper Tape Specifications



Unit: mm

Type	A	B	W	E	F	P ₀	P ₁	P ₂	OD ₀	T
CPR0805	1.60±0.10	2.40±0.2	8.0±0.2	1.75±0.1	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.85±0.1
CPR1206	1.90±0.10	3.50±0.2	8.0±0.2	1.75±0.1	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1,-0	0.85±0.1

Embossed Plastic Tape Specifications

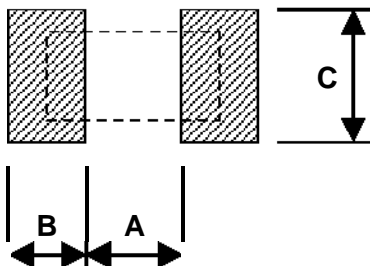


Unit: mm

Type	A	B	W	E	F	P ₀	P ₁	P ₂	OD ₀	T
CPR2010	2.8±0.20	5.5±0.20	12.0±0.3	1.75±0.1	5.5±0.05	4.00±0.10	4.00±0.1	2.00±0.05	1.50+0.1,-0	1.2
CPR2512	3.5±0.20	6.7±0.20	12.0±0.3	1.75±0.1	5.5±0.05	4.00±0.10	4.00±0.1	2.00±0.05	1.50+0.1,-0	1.2

RECOMMENDED LAND PATTERN

Unit: mm



Type	A	B	C
CPR0805	1.20	0.70	1.30
CPR1206	2.00	0.90	1.60
CPR2010	3.80	0.90	2.80
CPR2512	3.80	1.60	3.50