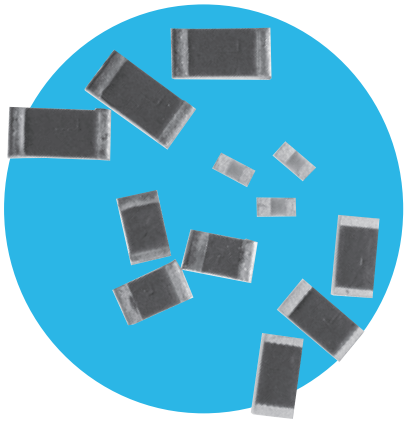
Resistors

Surface Mounted Thermistors

OBSOLETE

PTCR Series

- TCR's up to +3500 ppm
- Custom designs available
- Solder terminations have a nickel barrier layer
- Resistance range 10 ohms to 800 ohms
- Tolerances down to 2%
- Available in 0805 and 1206 sizes



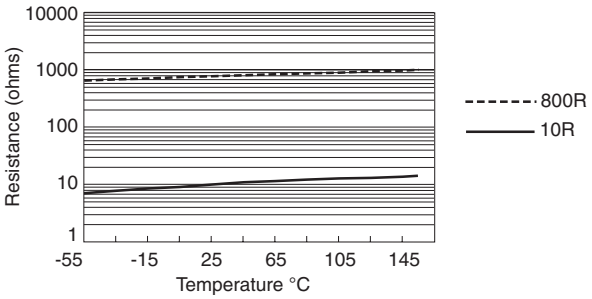
All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

Commercial		PTCR 0805	PTCR 1206	Notes
Power rating at 70°C	watts	0.1	0.25	
Resistance range	ohms	10R to 400R	10R to 800R	
Limiting element voltage	volts	100	200	
TCR -55°C to 155°C	ppm/°C			See table below
Resistance tolerance at 20°C	%	2, 5, 10		
Ambient temperature range	°C	-55 to 155		
Values	ohms	E24 & E96 preferred		Any value to order
Thermal impedance	°C/watt	360	200	For 10 devices mounted on a 50 x 25mm p.c.b. area

Variation of TCR within Value Range

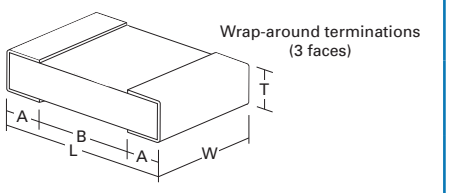
Value range (ohms)	TCR (ppm/°C)
10 to <25	3500 ± 10%
25 to <50	3100 ± 10%
50 to <100	2900 ± 10%
10 to <200	2700 ± 15%
200 to <400	2400 ± 15%
400 to <800	2200 ± 15%



Physical Data

Dimensions (mm) & weight (mg)

	L	W	T max	A	B* min	C	Wt.
0805	2.0±0.15	1.25±0.15	0.6	0.3±0.15	0.9	0.3±0.1	4.7
1206	3.2±0.2	1.6±0.2	0.7	0.4±0.2	1.7	0.4±0.15	8.5



*This dimension determines the number of conductors which may pass under the surface mounted device.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

BI Technologies IRC Welwyn

www.ttelectronics.com/resistors

PTCR Series

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Construction
Thick film resistor material, overglaze and organic protection are screen printed on a 96% alumina substrate.

Terminations
Wrap-around terminations are suitable for soldering.

Solderability
Wrap-around terminations have an electroplated nickel barrier and solder coating. This ensures excellent leach resistance properties and solderability. They will withstand immersion in solder at 260°C for 10 seconds.

Marking
All relevant information recorded on the primary package or reel.

Solvent Resistance
The chips are resistant to all normal industrial cleaning fluids suitable for printed circuits.

Performance Data

		Maximum	Typical
Load at rated power: 1000 hours at 70°C	ΔR%	5	1
Shelf life: 12 months at room temperature	ΔR%	3	0.5
Derating from rated power at 70°C		Zero at 155°C	
Dry heat: 1000 hours at 155°C	ΔR%	2.5	1
Climatic category		55 / 155 / 56	
Long term damp heat	ΔR%	3	1
Temperature rapid change	ΔR%	2	0.5
Resistance to solder heat	ΔR%	2	0.5
Voltage proof	volts	500	

Application Notes

Operating Temperature Range
The chips themselves can operate at a maximum temperature of 155°C (see performance claims above). For soldered chips, the joint temperature should not exceed 110°C. This condition is met when the stated power levels at 70°C are used.

Mounting
This chips resistor is ideally suited for handling by automatic methods due to its rectangular shape and small dimensional tolerances. Electrical connection to a ceramic substrate or to a printed circuit board can be made by flow or reflow soldering of wraparound terminations. The terminations provide good 'leach' properties and ensure reliable contact. Due to the robust construction the resistor chip can be immersed in a solder bath for 10 seconds at 260°C. This enables the resistor to be mounted on one side of a printed circuit board and wire-leaded components on the other side.

Packing
As standard 3000 chips are supplied taped and reeled on 8mm tape to IEC 286-3.

Ordering Procedure
Specify type reference, value and tolerance as shown in this example of PTCR1206 400R 2%:

F	1%
G	2%
J	5%