

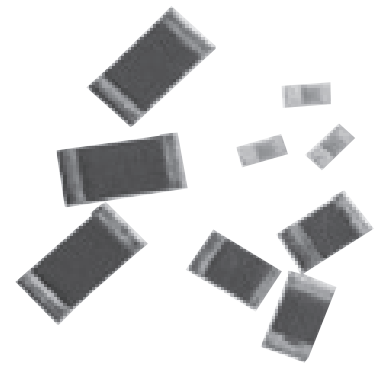
High Temperature Chip Resistor

HTCR Series

- High temperature operation to 250°C
- For gold wire bond (G type)
- For conductive adhesive (G, P & E types)
- For soldering (F type)
- Non-magnetic (G, P & E types)
- Range 0805 to 2512 at 1R0 to 10M
- RoHS compliant



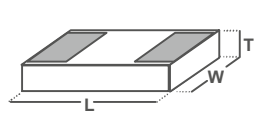
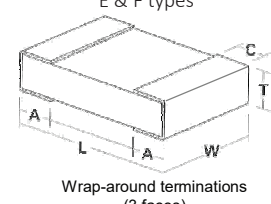
All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)



Electrical Data

| Size | | 0805 | 1206 | 2010 | 2512 |
|-------------------------|--------|---|-------|-------|------|
| Power @230°C (G&P only) | W | 0.063 | 0.125 | 0.31 | 0.5 |
| Power @155°C | W | 0.1 | 0.19 | 0.47 | 0.75 |
| Power @70°C | W | 0.125 | 0.25 | 0.625 | 1 |
| Resistance range | ohms | 1R0 to 10M | | | |
| Tolerance | % | 1, 5 | | | |
| LEV | V | 150 | 200 | 400 | 500 |
| TCR | ppm/°C | <10R:200 ≥10R:100 | | | |
| Operating temperature | °C | F type-55 to +200, E type-55 to +225, G&P type-55 to +250 | | | |
| Thermal Impedance | °C/W | 220 | 160 | 75 | 40 |
| Values | | E24 or E96 preferred- other values to special order | | | |

Physical Data (All dimensions in mm and nominal weight in g)

| Dimensions (mm) & weight (mg) | | | | | | | | |
|-------------------------------|----------|-----------|-------|----------|----------|-----|--|---|
| | L | W | T max | A | C | Wt. | G & P types | E & F types |
| 0805 | 2.0±0.15 | 1.25±0.15 | 0.6 | 0.3±0.15 | 0.3±0.1 | 4.7 |  |  |
| 1206 | 3.2±0.2 | 1.6±0.2 | 0.7 | 0.4±0.2 | 0.4±0.15 | 8.5 | | |
| 2010 | 5.1±0.3 | 2.5±0.2 | 0.8 | 0.6±0.3 | 0.6±0.25 | 36 | | |
| 2512 | 6.5±0.3 | 3.2±0.2 | 0.8 | 0.6±0.3 | 0.6±0.25 | 55 | | |

Construction

Planar gold G type or PtAg P types: Electrodes, resistor material and overglaze are printed onto an alumina substrate. The resistors are laser trimmed to the required value and protected. The gold terminations are suitable for wire bonding and both types are suitable for attachment with conductive adhesive. Wraparound E type: Thick-film PtAg electrodes, resistor material and overglaze are printed onto an alumina substrate. The resistors are laser trimmed to the required value and protected. The terminations are wraparound coated with a polymer Ag material and are suitable for attachment with conductive adhesive. Wraparound F type: These are made as the E type then plated with a nickel barrier and 100% tin plating and are suitable for soldering.

Marking

The components are not marked; all data is printed onto the packaging.

Solvent Resistance

The component is resistant to all normal industrial cleaning solvents suitable for printed circuits.

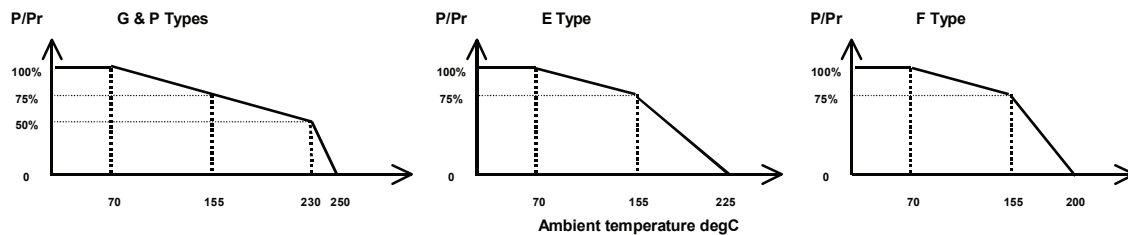
General Note

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.

Performance Data

| | | Maximum |
|---|------------|---------------------------|
| Load at rated power (1000hrs at 155°C and 70°C) | ΔR | 2% + 0.01 Ω |
| Derating from rated power at 70°C | | See Derating Curves below |
| Short term overload | ΔR | 1% + 0.01 Ω |
| Dry heat (1000hrs at 250°C) | ΔR | 2% + 0.01 Ω |
| Damp heat steady state (56 days, 40°C, ≥90% RH) | ΔR | 1% + 0.01 Ω |
| Climatic | ΔR | 1% + 0.01 Ω |
| Temperature rapid change (5 cycles -55°C to +250°C) | ΔR | 1% + 0.01 Ω |

Derating Curves



Packaging

0805 and 1206 HTCR series resistors are supplied on 8mm carrier tape and 7 inch reels as per IEC 286-3, quantity per reel; 3000. 2010 and 2512 HTCR series resistors are supplied on 12mm carrier tape and 7 inch reels as per IEC 286-3, quantity per reel; 2010: 3000pcs; 2512: 1800pcs.

The orientation of resistors in the tape is as follows:

| Product | Description | Packing Orientation |
|--------------|----------------------------------|--|
| E type <100R | Unplated wraparound terminations | Conventional- resistor element on top side |
| E type ≥100R | Unplated wraparound terminations | Flip-chip – resistor element on underside |
| F type | Plated wraparound terminations | Conventional- resistor element on top side |
| G type | Planar gold terminations | Conventional- resistor element on top side |
| P type | Planar PtAg terminations | Flip-chip – resistor element on underside |

Ordering Procedure

Example: HTCR1206G-10K F T 3 (HTCR1206, planar gold terminations, 10 kilohms ±1%, Pb-free)

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|--|
| H | T | C | R | 1 | 2 | 0 | 6 | G | - | 1 | 0 | K | | F | T | 3 | |
| 1 | | | 2 | | | 3 | | | 4 | | | 5 | | | 6 | | |

| 1 Series | 2 Size | 3 Termination | 4 Value | 5 Tolerance | 6 Packing |
|-------------|-----------|-------------------------------------|----------------------------|----------------|--|
| HTCR | 0805 | E Unplated polymer Ag wraparound | E24 = 3/4 characters | F = ±1% | T3 0805 1206 2010 Up to 3000/reel |
| | 1206 | F Ni barrier & Sn plated wraparound | E96 = 3/4 characters | J = ±5% | |
| | 2010 | G Planar gold | R = ohms | | |
| | 2512 | P Planar PtAg | K = kilohms M = megohms | | T18 2512 Up to 1800/reel |

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Mouser Electronics

Authorized Distributor

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[HTCR2512E-1R0FT18](#)