

Type LT73 Series

Key Features

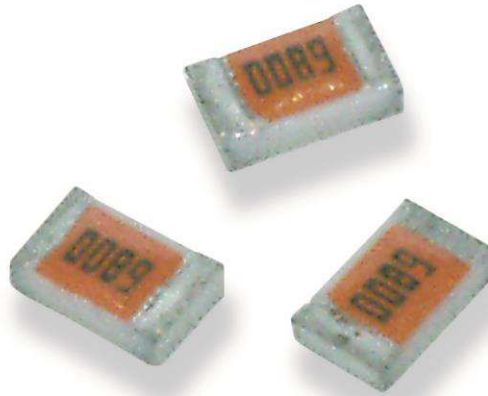
Stable Alumina
Substrate

Solvent
Resistant
Coating

Excellent
Linearity

Supplied on
Tape and Reel

Other TCR's
available to
order



This thin film chip is manufactured by sputtering pure metals onto a high purity alumina base. This process ensures the element remains stable in performance over a long life. The LT73 is equally suited to temperature compensation or thermal protection when incorporated within the appropriate electronics. This range of sensors are finished in a tough epoxy seal and are available on tape for high speed auto placement.

Characteristics – Electrical

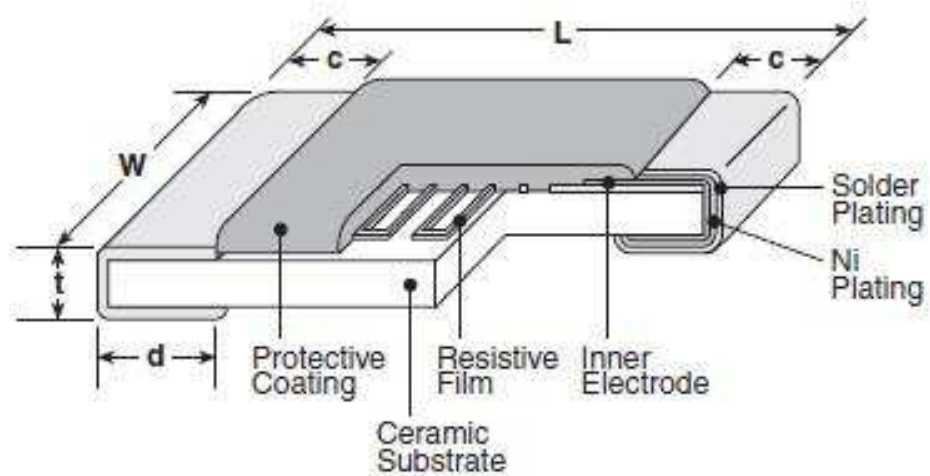
| | 0805 Size (2A) | 1206 size (2B) |
|------------------------------------|---------------------------|----------------|
| Resistance Range | 510R - 3K0 | 510R - 6K2 |
| Resistance Tolerance | ±5% | |
| Rated Power at 70°C | 0.1 Watt | 0.125 Watt |
| Max. Working Voltage @ TA 70°C | 50 volts | 75 volts |
| Max. Overload Voltage @ TA 70°C | 100 volts | 150 volts |
| Operating Temperature Range | -40°C ~ +125°C | |
| TCR Measuring Temperature | +25°C ~ +75°C (See Graph) | |
| TCR Tolerance | ±10% | |
| Insulation Resistance | More than 10 Meg | |

Marking – Black four digit on bronze body color

Performance Characteristics

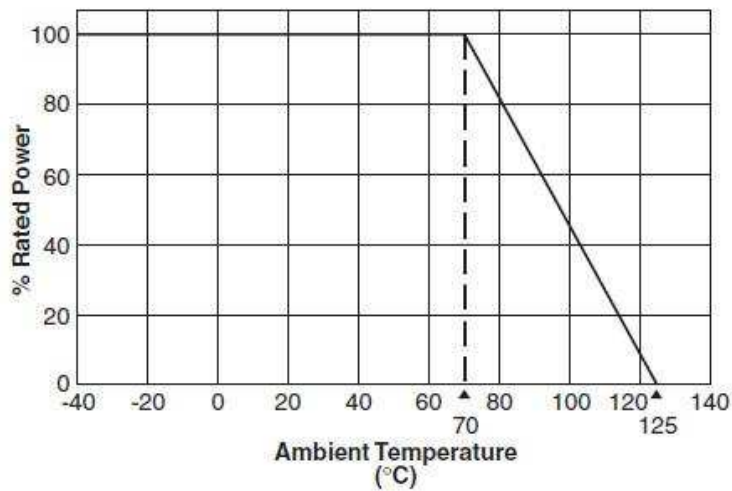
| Parameter | Requirement $\Delta R \pm(\% + 0.05\Omega)$ | | Test Method |
|-----------------------------|---|---------|--|
| | Limit | Typical | |
| Resistance | Within specified tolerance | | 25°C |
| TCR | Within specified tolerance | | +25°C/+75°C |
| Overload (Short time) | ±1.0% | ±0.23% | Rated voltage x 2.5 or maximum overload volume for 5 seconds, whichever is lower |
| Resistance to Solder Heat | ±1.0% | ±0.1% | 260°C ± 5°C, 10 seconds ± 1 second |
| Rapid Change of Temperature | ±1.0% | ±0.1% | -40°C (30 minutes)/+125°C (30 minutes), 5 cycles |
| Moisture Resistance | ±3.0% | ±0.54% | 40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| Endurance at 70°C | ±3.0% | ±0.62% | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |

Construction and Dimensions

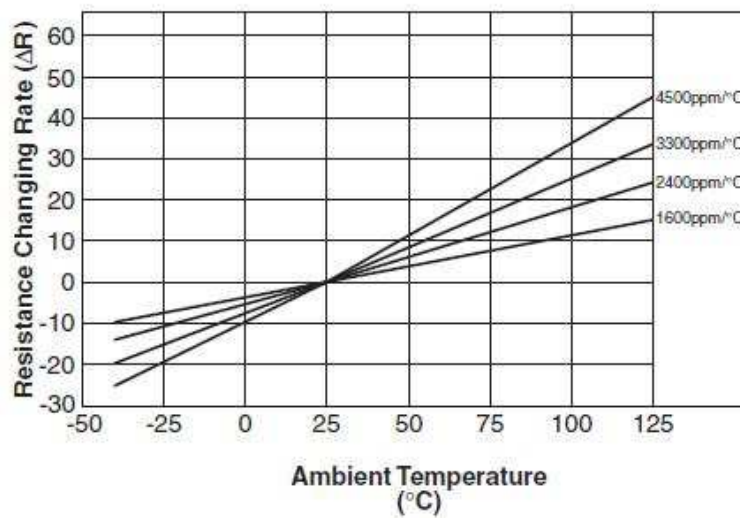


| Type | Dimensions (mm) | | | | |
|-----------|-----------------|-----------|-----------|--|-----------|
| | L | W | c | d | t |
| 2A (0805) | 2.00±0.20 | 1.25±0.20 | 0.40±0.20 | 0.30 ^{+0.20} / _{-0.10} | 0.50±0.10 |
| 2B (1206) | 3.20±0.20 | 1.60±0.20 | 0.50±0.30 | 0.40 ^{+0.20} / _{-0.10} | 0.60±0.10 |

Derating Curve



Temperature Characteristics

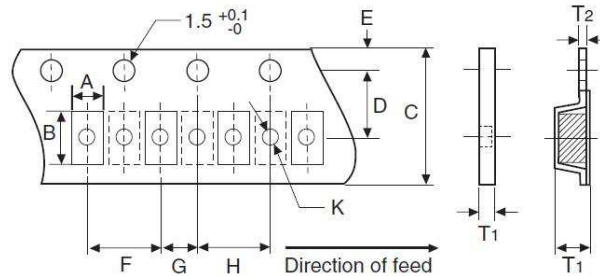


Approximate expression for Resistance-Temperature Characteristics

| TCR ($\times 10^{-6}/K$) | C_0 | C_1 | C_2 |
|----------------------------|--------|--------|-------------------------|
| 3000 | 0.9288 | 0.0028 | 1.9983×10^{-6} |
| 3300 | 0.9232 | 0.0030 | 2.9980×10^{-6} |
| 3600 | 0.9175 | 0.0032 | 4.0000×10^{-6} |
| 3900 | 0.9099 | 0.0035 | 4.0064×10^{-6} |
| 4200 | 0.9026 | 0.0038 | 3.9964×10^{-6} |
| 4500 | 0.8948 | 0.0041 | 4.0064×10^{-6} |

Packaging

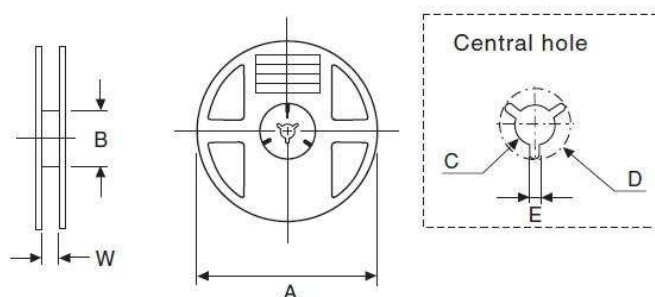
Carrier Tape



| Tape | B | C | D | E | F | G | H |
|------|---------|---------|----------|----------|---------|----------|---------|
| 2A | 2.4±0.1 | 8.0±0.2 | 3.5±0.05 | 1.75±0.1 | 4.0±0.1 | 2.0±0.05 | 4.0±0.1 |
| 2B | 3.5±0.1 | 8.0±0.2 | 3.5±0.05 | 1.75±0.1 | 4.0±0.1 | 2.0±0.05 | 4.0±0.1 |

| Tape | A | K | T ₁ | T ₂ |
|---------|-----------|----------|------------------------------------|----------------|
| 2A (TE) | 1.60±0.15 | 1.2 Max. | 0.75 ^{+0.2} ₋₀ | 0.25±0.05 |
| 2B (TD) | 2.0±0.2 | --- | 0.90±0.1 | --- |

Reel



| Reel | A | B | W | C | D | E |
|------|---------|--------|--------|--------|--------|---------|
| TE | 178±2.0 | 60±2.0 | 10±1.2 | 13±0.5 | 21±0.8 | 2.0±0.5 |
| TD | 178±2.0 | 60±2.0 | 10±1.2 | 13±0.5 | 21±0.8 | 2.0±0.5 |

How To Order

| LT73 | 3900 | 2A | 1R0 | J | TE |
|-------------|--------------------------|--------------------|------------------------------------|-----------|--|
| Common Part | T.C.R. | Size | Resistance Value | Tolerance | Packaging |
| LT73 | 3000ppm/°C 3900ppm/°C | 2A 0805 2B 1206 | 0.1Ω - R10 1Ω - 1R0 1KΩ- 1K0 | J - 5% | TE - 4000 RL (0805) TD - 5000 RL (1206) |

Mouser Electronics

Authorized Distributor

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[LT7330002A3K0JTE](#)