

## Type LT73 Series

### Key Features

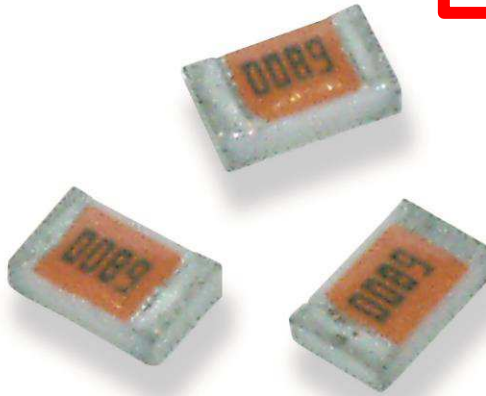
Stable Alumina  
Substrate

Solvent  
Resistant  
Coating

Excellent  
Linearity

Supplied on  
Tape and Reel

Other TCR's  
available to  
order



**PRODUCT PLANNED  
FOR EOL**

**LTB 18/08/23**

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

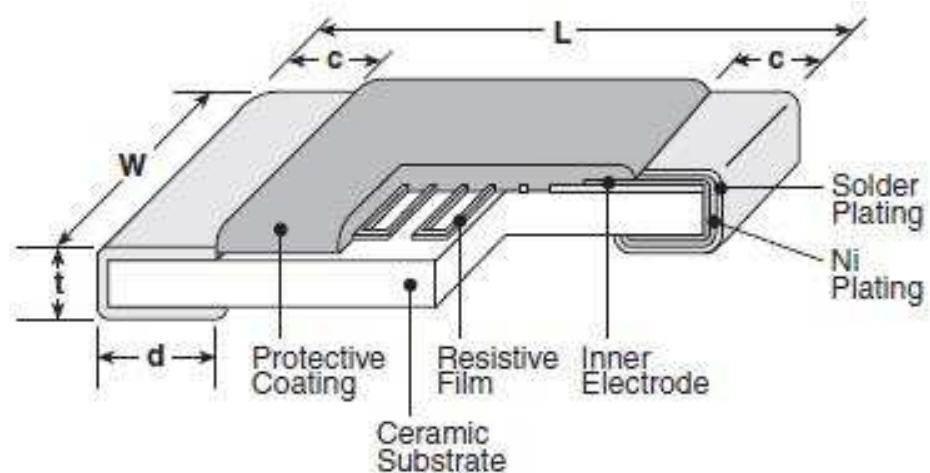
|                                    | 0805 Size (2A)            | 1206 size (2B) |
|------------------------------------|---------------------------|----------------|
| Resistance Range                   | 510R - 3K0                | 510R - 6K2     |
| Resistance Tolerance               | ±5%                       |                |
| Rated Power at 70°C                | 0.1 Watt                  | 0.125 Watt     |
| Max. Working Voltage<br>@ TA 70°C  | 50 volts                  | 75 volts       |
| Max. Overload Voltage<br>@ 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

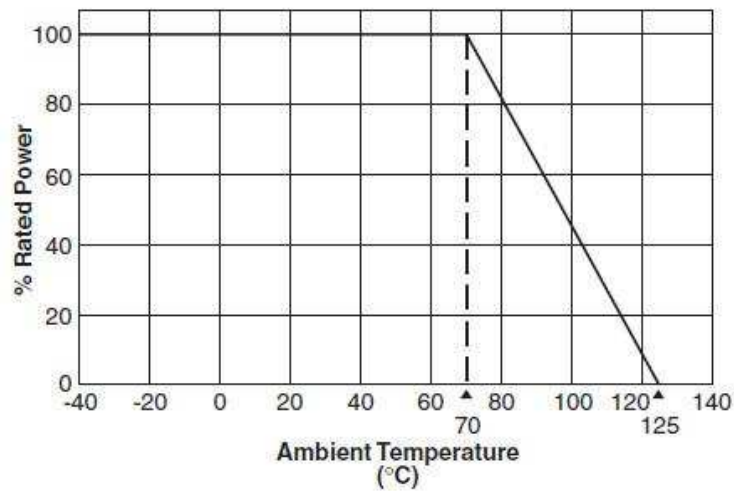
| Parameter                   | Requirement $\Delta R \pm(\% + 0.05\Omega)$ |         | Test Method                                                                      |
|-----------------------------|---------------------------------------------|---------|----------------------------------------------------------------------------------|
|                             | 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

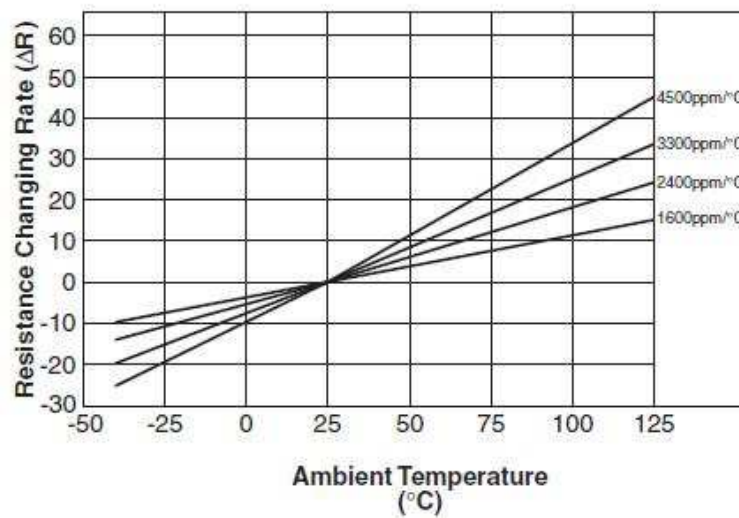


| Type      | Dimensions (mm) |           |           |                                          |           |
|-----------|-----------------|-----------|-----------|------------------------------------------|-----------|
|           | L               | W         | c         | d                                        | t         |
| 2A (0805) | 2.00±0.20       | 1.25±0.20 | 0.40±0.20 | 0.30 <sup>+0.20</sup> / <sub>-0.10</sub> | 0.50±0.10 |
| 2B (1206) | 3.20±0.20       | 1.60±0.20 | 0.50±0.30 | 0.40 <sup>+0.20</sup> / <sub>-0.10</sub> | 0.60±0.10 |

## Derating Curve



## Temperature Characteristics

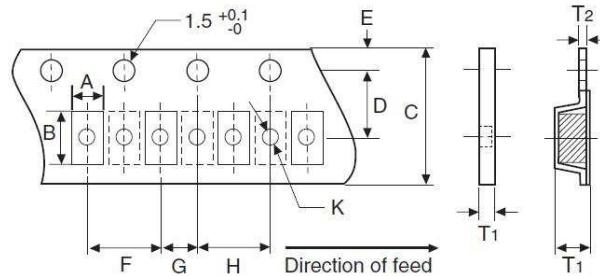


## Approximate expression for Resistance-Temperature Characteristics

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

## Packaging

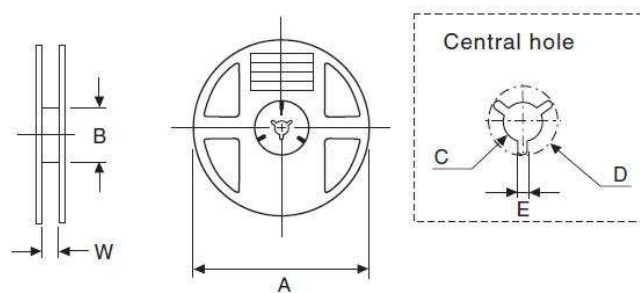
### Carrier Tape



| 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 <sub>1</sub>                     | T <sub>2</sub> |
|---------|-----------|----------|------------------------------------|----------------|
| 2A (TE) | 1.60±0.15 | 1.2 Max. | 0.75 <sup>+0.2</sup> <sub>-0</sub> | 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<br>3900ppm/°C | 2A 0805<br>2B 1206 | 0.1Ω - R10<br>1Ω - 1R0<br>1KΩ - 1K0 | J - 5%    | TE - 4000 RL (0805)<br>TD - 5000 RL (1206) |