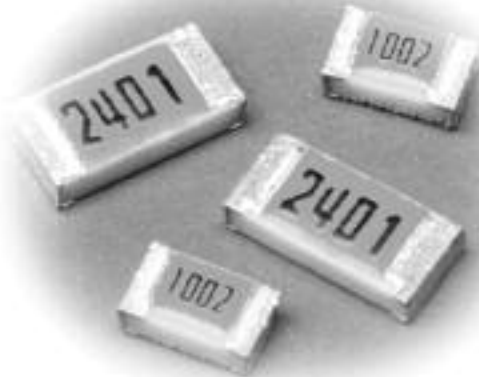


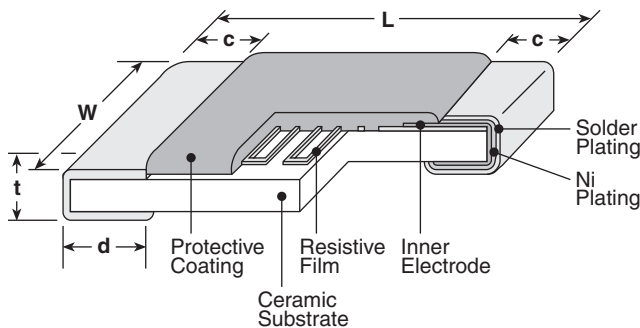
thermal protection



features

- Anti-leaching nickel barrier terminations
- Twenty-five specifiable temperature characteristics
- SMD thin film resistor with thermo-perceptivity
- Marking: Black four-digit on bronze body color
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

dimensions and construction



| Type (Inch Size Code) | Dimensions inches (mm) | | | | |
|--------------------------|------------------------|-------------------------|------------------------|---|------------------------|
| | L | W | c | d | t |
| 2A (0805) | .079±.008 (2.0±0.2) | .049±.008 (1.25±0.2) | .016±.008 (0.4±0.2) | .012 ^{+0.008} _{-.004} (0.3 ^{+0.2} _{-.01}) | .02±.004 (0.5±0.1) |
| 2B (1206) | .126±.008 (3.2±0.2) | .063±.008 (1.6±0.2) | .02±.008 (0.5±0.3) | .016 ^{+0.008} _{-.004} (0.4 ^{+0.2} _{-.01}) | .024±.004 (0.6±0.1) |

ordering information

| | | | | | | | |
|------------|-------------|----------------------|--|--|--------------------------------------|------------------|-------------|
| New Part # | LT73 | 2B | T | TD | 101 | J | 1000 |
| | Type | Size Code | Termination Material | Packaging | Resistance Value | Tolerance | T.C.R. |
| | | 2A: 0805 2B: 1206 | T: Sn (Other termination styles available, contact factory for options) | TD: 7" paper taping (5,000 pieces/reel) TE: 7" embossed plastic (4,000 pieces/reel) | 2 significant figures + 1 multiplier | G: ±2% J: ±5% | |

applications and ratings

| Part Designation | Power Rating | Maximum Working Voltage | Maximum Overload Voltage | Thermal Time Constant | Thermal Dissipation Constant | Rated Ambient Temperature | Operating Temperature Range |
|------------------|--------------|-------------------------|--------------------------|-----------------------|------------------------------|---------------------------|-----------------------------|
| LT732A | 0.1W | 50V | 100V | 1.0s | 1.37mW/°C | +70°C | -40°C to +125°C |
| LT322B | 0.125W | 75V | 150V | 1.5s | 1.47mW/°C | | |

Thermal time constant and dissipation constant are reference values, which are values of elements and vary with connecting or fixing methods.

For further information on packaging, please refer to Appendix A.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

12/19/12

applications and ratings

thermal protection

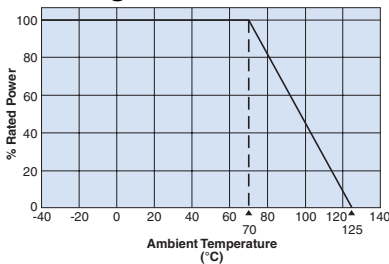
| T.C.R. (x10 ⁻⁶ /K) | T.C.R. Tolerance | Resistance Range E-24 | | Resistance Tolerance |
|----------------------------------|--------------------------|--------------------------|--------------|-------------------------|
| | | LT732A | LT732B | |
| 150, 250, 350, 450, 500 | ±100x10 ⁻⁶ /K | 2kΩ - 24kΩ | 2kΩ - 51kΩ | G: ±2% |
| 600, 700, 800, 900 | ±150x10 ⁻⁶ /K | 1kΩ - 20kΩ | 1kΩ - 43kΩ | J: ±5% |
| 1000, 1200, 1400 | ±15% | 1kΩ - 13kΩ | 1kΩ - 27kΩ | |
| 1600, 1800 | | 510Ω - 4.7kΩ | 1kΩ - 10kΩ | |
| 2000, 2200, 2400 | ±10% | 510Ω - 4.7kΩ | 510Ω - 9.1kΩ | |
| 2600, 2800, 3000 | | 510Ω - 3.0kΩ | 510Ω - 6.2kΩ | |
| 3300, 3600, 3900 | | 510Ω - 3.0kΩ | 510Ω - 6.2kΩ | |
| 4200 | | 100Ω - 1kΩ | 100Ω - 2kΩ | |
| 4500 | | 51Ω - 510Ω | 51Ω - 510Ω | |

T.C.R. Measuring Temperature: +25°C ~ +75°C

Rated voltage = √(Power Rating x Resistance value) or Max. working voltage, whichever is lower.

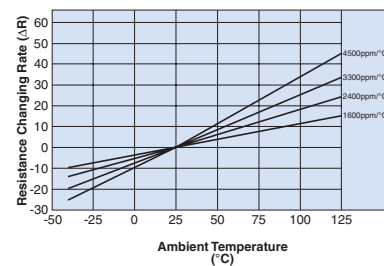
environmental applications

Derating Curve



For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

Examples of Temperature Characteristics of Resistance



Approximate Expression for Resistance-Temperature Characteristics

| T.C.R. (x10 ⁻⁶ /K) | C ₀ | C ₁ | C ₂ |
|----------------------------------|----------------|----------------|---------------------------|
| 3000 | 0.9288 | 0.0028 | 1.9983 x 10 ⁻⁶ |
| 3300 | 0.9232 | 0.0030 | 2.9980 x 10 ⁻⁶ |
| 3600 | 0.9175 | 0.0032 | 4.0000 x 10 ⁻⁶ |
| 3900 | 0.9099 | 0.0035 | 4.0064 x 10 ⁻⁶ |
| 4200 | 0.9026 | 0.0038 | 3.9964 x 10 ⁻⁶ |
| 4500 | 0.8948 | 0.0041 | 4.0064 x 10 ⁻⁶ |

Performance Characteristics

| Parameter | Requirement Δ R ±(% + 0.05Ω) | | Test Method |
|-----------------------------|------------------------------|---------|--|
| | Limit | Typical | |
| Resistance | Within specified tolerance | — | 25°C |
| T.C.R. | Within specified T.C.R. | — | +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 |

Confirming resistance drift is recommended since this product has a tendency to have bigger resistance change than general flat chip over 70°C. Please pay attention not to be applied ESD, it may cause of resistance change.

Actual Value (Out of Guarantee)

| Test Items | Reference | Test Method |
|---------------------------|-----------|----------------------------|
| Low Temperature Exposure | ±0.05% | -40°C, 45 minutes |
| High Temperature Exposure | ±0.6% | 125°C, 1000 hours |
| ESD | 500V | Human model, 100 pF 1.5 kΩ |

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

12/19/12