

# TK134 and TK634 Compact-Radial-Lead Low TC Precision Film Resistors

**“Pure Tin Free” design with Low Temperature Coefficient of 5 ppm/°C, 10 ppm/°C, or 20 ppm/°C Resistance Range from 1 K to 10 Megohm**

TK134 and TK634 Low TC Precision Radial-Lead Resistors with the Tetrinox® resistance system solve the reliability problems related to other low TC precision resistor technologies. The robust construction of Caddock's TK134 and TK634 Resistors provides reliable operation even in the harsh temperature cycling and/or power cycling environments of the most demanding industrial applications.

TK134 and TK634 Low TC Precision Radial-Lead Film Resistors provide a combination of performance advantages not available in other compact resistive components.

- **Low Temperature Coefficient** - better than 5 ppm/°C, 10 ppm/°C, or 20 ppm/°C over the entire temperature range from -55°C to +125°C!
- **Long-Term Stability** - extended load life stability typically better than ±0.05% per 2,000 hours of operation.
- **Extended Resistance Range** - from 1 K ohm to 10 Megohm.
- **Precision Tolerances** - ±0.1% is standard, and tolerances of ±1% and ±0.05% are available.
- **Wide Operating Temperature Range** - from -55°C to +175°C.
- **High Power Density** - with a power rating of 0.3 Watt in a molded case.
- **Caddock's Non-Inductive Performance** - provides faster settling times and minimum distortion in all types of high frequency circuits.
- **High Density Packaging** - the radial-lead mounting and small rectangular case of the TK134 and TK634 resistors permit high packaging densities in low profile circuitry.



The Tetrinox® Resistance System was introduced by Caddock in 1975. Tetrinox provides a wide range of resistivities, with the higher resistivities capable of producing resistance values up to 100 times higher than other ultra-low TC resistors in a similar size component. The essentially linear TC is well within 10 ppm/°C over the entire temperature range from -55°C to +125°C. By using TK resistors engineers can design high precision circuits with lower current drain and lower power requirements.

Through our R&D, Caddock has continued to improve the Tetrinox Resistance System, building on over 40 years of experience with our unique complex oxide resistance system technologies.

Model No.	Temperature Coefficient ppm/°C	Wattage @ +125°C	Max. Working Voltage	Dielect. Strength	Resistance		Encapsulation	Leadwire
					Min.	Max.		
TK134	5, 10, or 20	0.3	300	400	1.00 K	1.50 Meg	Transfer Molded	Gold Plated
TK634	5, 10, or 20	Limited by Maximum Working Voltage	300	400	1.51 Meg	10.0 Meg	Transfer Molded	Gold Plated

**Resistance Tolerance:** ±0.1% Standard (tolerances of ±1% and ±0.05% are available)

**Temperature Coefficient:** Referenced to 25°C, ΔR taken at -55°C to +125°C.

TC identification is made with a color stripe on the top edge of the part.

- 5 ppm/°C White Stripe
- 10 ppm/°C No Stripe
- 20 ppm/°C Green Stripe

**Overload\*:**

TK134 - 6.25 times rated power for 5 seconds at voltage not to exceed 1.5 times maximum rated working voltage, ΔR less than 0.05%.

TK634 - 1.5 times rated working voltage for 5 seconds, ΔR less than 0.2%.

**Operating Temperature:** -55°C to +175°C.

**Thermal Shock:**

TK134 - Mil-Std-202, Method 107, Cond. B, ΔR less than 0.05%.

TK634 - Mil-Std-202, Method 107, Cond. B, ΔR less than 0.1%.

**Low Temperature Operation\*:**

TK134 - ΔR less than 0.02%.

TK634 - ΔR less than 0.05%.

**Dielectric Withstanding Voltage\*:**

TK134 - ΔR less than 0.02%.

TK634 - ΔR less than 0.05%.

**Moisture Resistance\*:** Mil-Std-202, Method 106, 1K to 500K ΔR less than 0.05%, 500.1K to 10.0 Meg ΔR less than 0.1%.

**Load Life\*:** 2,000 hours at +125°C, TK134 - 1K to 500K ΔR less than 0.07%, 500.1K to 1.5 Meg. ΔR less than 0.1%. TK634 - ΔR less than 0.2%.

**Shelf Life (Typical):**

TK134 - 25 ppm/year.

TK634 - 50 ppm/year.

**Insulation Resistance:** 10,000 Megohms.

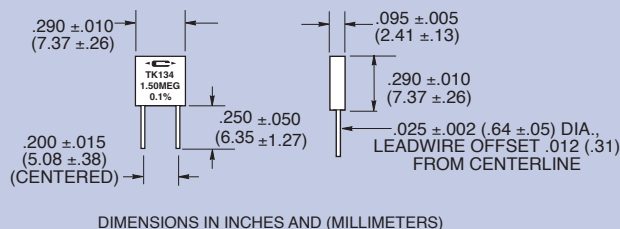
**Vibration\*:**

TK134 - ΔR less than 0.03%.

TK634 - ΔR less than 0.05%.

**Shock\*:** ΔR less than 0.05%.

\*Test methods per procedures of Mil-PRF-55182/9.

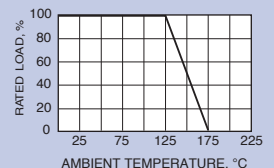


**Ordering Information:**

**TK134 - 1.50 Meg - 0.1% - 10 ppm/°C**

Model Number      Resistor Value      Tolerance      Temperature Coefficient

**Derating Curve:**



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