

CADDOCK

ELECTRONICS, INCORPORATED

- High Performance Film Resistors, Resistor Networks and Custom Resistive Devices •

Introducing Caddock's USF 200 Series Ultra-Stable, Low TC, Ultra-Precision Film Resistors

- **Maximum Temperature Coefficient (TC): ± 2 ppm/ $^{\circ}\text{C}$ from -40°C to $+85^{\circ}\text{C}$, ref. to $+25^{\circ}\text{C}$**
- **Standard Values from 50 Ohm to 10 Meg**
- **Standard Tolerances of $\pm 0.01\%$ and $\pm 0.10\%$**
- **Three Models with Voltage and Power Ratings of 300V (0.33W), 1400V (0.75W), and 2500V (0.75W)**

Caddock is pleased to announce the Type USF Ultra-Stable, Low TC, Ultra-Precision Film Resistors developed for use in the most demanding Precision Analog Electronics Applications. **The Type USF, with its very Low TC, provides the widest resistance range for a Low TC resistor product available in the industry, 50 Ohms to 10 Meg.** The USF 200 Series is available in three models with (voltage and power ratings): USF240 (300V, 0.33W), USF270 (1400V, 0.75W), USF271 (2500V, 0.75W).

The USF 200 Series resistors are manufactured with an alumina (aluminum oxide) ceramic sandwich that offers exceptional thermal performance. The excellent thermal conductivity of the alumina sandwich construction provides good heat flow away from the resistor element minimizing the temperature rise in the resistor due to power dissipation as compared to "plastic package" Low TC resistors. This provides extremely stable operating performance as power is applied to the Low TC resistor.

The Load Life Stability of the Type USF:

2,000 Hours at Full Rated Voltage/Power at $+85^{\circ}\text{C}$, $\% \Delta R$ ($+0.015\% \pm 0.015\%$) max.

Custom USF Resistors are available with Absolute TC as tight as 1 ppm/ $^{\circ}\text{C}$ (max.) for selected resistance values. Matched Ratio TC as tight as 0.5 ppm/ $^{\circ}\text{C}$ for equal resistance values.

USF 200 Series resistors are available in a number of standard resistance values that are commonly used in high accuracy, precision analog designs. Typical applications include Amplifier Gain Setting, Bridge Circuits, Weighing Systems, Strain Gage Circuits, Reference Resistors, and Precision Voltage Dividers with input voltages up to 2500 V.



- **Voltage Ratings:** 3 Models with Voltage Ratings from 300 Volts to 2500 Volts at $+85^{\circ}\text{C}$
- **Power Ratings:** 3 Models with Power Ratings from 0.33 Watt to 0.75 Watt at $+85^{\circ}\text{C}$
- **Temp. Coefficient:** **Zero Nominal TC**, Max. TC ± 2 ppm/ $^{\circ}\text{C}$ from -40°C to $+85^{\circ}\text{C}$ ref. to $+25^{\circ}\text{C}$
- **Ohm Values:** Standard Values offered from 50 Ohms up to 10 Meg
- **Tolerances:** Standard Tolerances of $\pm 0.01\%$ and $\pm 0.10\%$
- **Loadlife Stability:** 2,000 hours at rated voltage/power at $+85^{\circ}\text{C}$, $\% \Delta R$: ($+0.015\% \pm 0.015\%$), max.
- **Availability:** Available Now with Lead Times: Stock (Engineering Samples) to 8 weeks ARO

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