

Si-540

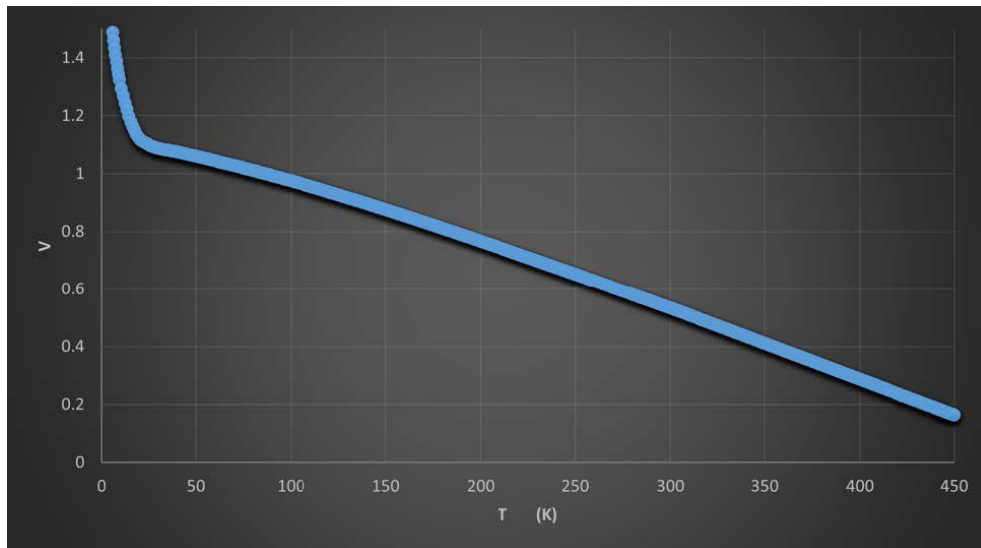
Silicon Diode Cryogenic Temperature Sensor



The Scientific Instruments Model Si-540 Silicon Diode Temperature Sensors operate over a wide temperature range (1.4K to 450K) and are miniature in size. They are linear over a wide temperature range interval, have high sensitivity in their lower range, and are interchangeable to a standard V/T curve. We offer several different accuracy groupings based on each sensor's adherence to the typical response curve. See below for more information:



Response Curve



Si-540 Interchangeable Accuracy Groupings

Si-540 Group "AA" Accuracy

+/- 0.1K from 1.5K to 25K
+/- 0.5K from 25K to 450K

Si-540 Group "A" Accuracy

+/- 0.3K from 1.5K to 25K
+/- 0.5K from 25K to 450K

Si-540 Group "B" Accuracy

+/- 0.5K from 1.5K to 450K

Si-540 Group "C" Accuracy

+/- 0.5K from 1.5K to 25K
+/- 1K from 25K to 450K

Si-540 Group "D" Accuracy

+/- 1K from 1.5K to 25K
+/- 2K from 25K to 450K

Si-540 Uncalibrated Accuracy

+/- 2K from 1.5K to 25K
+/- 5K from 25K to 450K

Si-540 Calibrated "N" Range

(4.2K to 450K)

Si-540 Calibrated "NN" Range

(1.4K to 450K)

Calibrated Accuracy:

+/- 0.01K from 1.4K to 50K
+/- 0.1K from 50K to 450K

*Data is subject to change as a result of product improvement

Si-540

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Model Si-540 sensors are normally mounted in a gold-plated copper canister with four 36 AWG polyimide coated, color-coded, phosphor bronze leads. Canister size is 0.093" diameter by 0.250" long. Leads of phosphor bronze, manganin, or copper wire are available at various lengths. Other packages can be supplied, contact us for details!



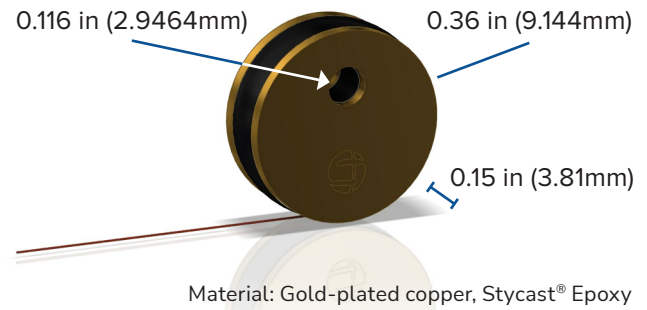
Features

- Interchangeability
- Repeatability
- NIST Traceable standard
- Rugged

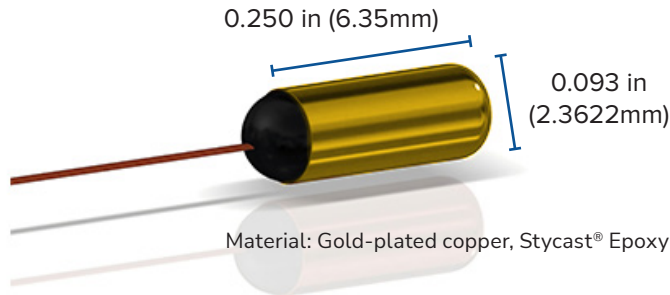
Physical Specifications

- Gold Plated OFHC Copper Enclosure, Dia. 0.093" (2.4mm) x Length 0.250" (5.1mm)
- Standard configuration Phosphor Bronze lead wire, 4-leaded, Polyimide coated, 36 AWG
- UHV Compatible (10^{-10} Pa)

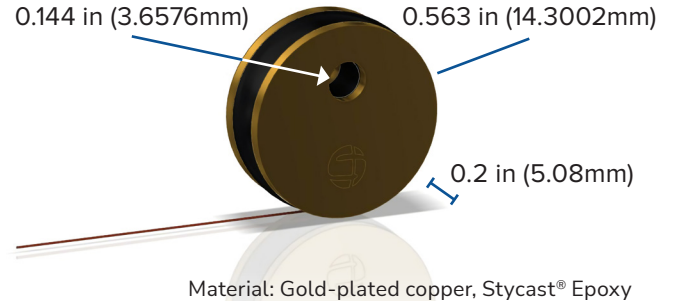
Model 22 Bobbin



Canister Package



Model 25 Bobbin



Four-Wire Options

- * 36 AWG Copper, Twisted Insulation: Teflon
- * 36 AWG Phosphor-Bronze, Bonded Insulation: Polyimide
- * 30 AWG Phosphor-Bronze, Bonded Insulation: Polyimide

- * 30 AWG Copper, Twisted (Model 25 Only) Insulation: Teflon

- * 32 AWG Phosphor-Bronze, Bonded Insulation: Polyimide

*Two-Wire Configurations Available Upon Request