

**Technical Data Sheet**

# TOSLK50A-43.5 Calibration Kit Type K(m) DC to 43.5 GHz, 50 $\Omega$



This calibration kit has been designed to provide superior measurement results when used with precision instruments. The TOSLK50A-43.5 comes with an s1p file for each short, open, and load calibration standard. The use of a s1p-based calibration will substantially improve uncertainties in measurement and should be used for optimal performance. Generic coefficients for each standard are provided in this document. Calibration performance using the generic coefficients will be less accurate than calibrating using the specific calibration kit characterization information.

The TOSLK50A-43.5 is designed for use in both field and lab environments. It is a high precision component and should be handled with proper care. Excessive shock, torque, or power should be avoided to prevent permanent damage.

Specifications for units within recommended calibration cycle are guaranteed under the following conditions:

1. Unit is operated within specified temperature range.
2. Unit has not been subjected to damage from mishandling.

Length, capacitance, and inductance are nominal values.

Through Return Loss and Insertion Loss and DC Resistance specifications are typical. Phase is measured as a deviation from the model defined by offset length and inductance or capacitance.

|                                         |                                            |
|-----------------------------------------|--------------------------------------------|
| <b>Operating Temperature Range</b>      | -10 °C to +55 °C (MIL-PRF-28800F, Class 2) |
| <b>Storage Temperature Range</b>        | -51 °C to +71 °C (MIL-PRF-28800F, Class 2) |
| <b>Recommended Calibration Interval</b> | 1 year                                     |

## Calibration Options

- TOSLK-0098 Standard Calibration to ISO17025 and ANSI/NCSS Z540-1. Includes calibration certificate.
- TOSLK-0099 Premium Calibration to ISO17025 and ANSI/NCSS Z540-1. Includes calibration certificate and test report.

For the latest information, sales, or service, visit: [www.anritsu.com](http://www.anritsu.com)

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# TOSLK50A-43.5 calibration kit specifications with generic cal kit coefficients.

| Through (Thru)                  | Spec                                       |
|---------------------------------|--------------------------------------------|
| Length                          | 16.07 mm                                   |
| Return Loss (DC to 10 GHz)      | $\geq 34$ dB                               |
| Return Loss (10 to 20 GHz)      | $\geq 32$ dB                               |
| Return Loss (20 to 30 GHz)      | $\geq 30$ dB                               |
| Return Loss (30 to 43.5 GHz)    | $\geq 30$ dB                               |
| Insertion Loss (DC to 43.5 GHz) | $\leq 0.025 \times \sqrt{f/\text{GHz}}$ dB |

| Open                         | Spec                 |
|------------------------------|----------------------|
| Length                       | 5.01 mm              |
| C0 (1E-15) F                 | 4.500                |
| C1 (1E-27) F/Hz              | 395.000              |
| C2 (1E-36) F/Hz <sup>2</sup> | -20.000              |
| C3 (1E-45) F/Hz <sup>3</sup> | 0.400                |
| Phase (DC to 10 GHz)         | $\leq \pm 1.5^\circ$ |
| Phase (10 to 20 GHz)         | $\leq \pm 3.0^\circ$ |
| Phase (20 to 30 GHz)         | $\leq \pm 4.5^\circ$ |
| Phase (30 to 43.5 GHz)       | $\leq \pm 6.0^\circ$ |

| Short                        | Spec                 |
|------------------------------|----------------------|
| Length                       | 5.01 mm              |
| L0 (1E-12) H                 | 4.000                |
| L1 (1E-24) H/Hz              | -650.000             |
| L2 (1E-33) H/Hz <sup>2</sup> | 39.000               |
| L3 (1E-42) H/Hz <sup>3</sup> | -0.640               |
| Phase (DC to 10 GHz)         | $\leq \pm 1.5^\circ$ |
| Phase (10 to 20 GHz)         | $\leq \pm 2.5^\circ$ |
| Phase (20 to 30 GHz)         | $\leq \pm 4.0^\circ$ |
| Phase (30 to 43.5 GHz)       | $\leq \pm 5.5^\circ$ |

| Load                         | Spec                        |
|------------------------------|-----------------------------|
| DC Resistance                | $50 \Omega \pm 0.25 \Omega$ |
| Return Loss (DC to 10 GHz)   | $\geq 42$ dB                |
| Return Loss (10 to 20 GHz)   | $\geq 36$ dB                |
| Return Loss (20 to 30 GHz)   | $\geq 32$ dB                |
| Return Loss (30 to 43.5 GHz) | $\geq 30$ dB                |
| Max Power                    | 0.5 W                       |