

Technical Data Sheet

# TOSLKF50A-43.5 Calibration Kit Type K(f) DC to 43.5 GHz, 50 $\Omega$



This calibration kit has been designed to provide superior measurement results when used with precision instruments. The TOSLKF50A-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 TOSLKF50A-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

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# TOSLKF50A-43.5 calibration kit specifications with generic cal kit coefficients.

Through (Thru)	Spec
Length	16.07 mm
Return Loss (DC to 10 GHz)	≥ 34 dB
Return Loss (10 to 20 GHz)	≥ 32 dB
Return Loss (20 to 30 GHz)	≥ 30 dB
Return Loss (30 to 43.5 GHz)	≥ 30 dB
Insertion Loss (DC to 43.5 GHz)	≤ 0.025 x √(f/GHz) dB

Open	Spec
Length	5.01 mm
C0 (1E-15) F	5.000
C1 (1E-27) F/Hz	0.000
C2 (1E-36) F/Hz <sup>2</sup>	1.500
C3 (1E-45) F/Hz <sup>3</sup>	0.100
Phase (DC to 10 GHz)	≤ ± 1.5°
Phase (10 to 20 GHz)	≤ ± 3.0°
Phase (20 to 30 GHz)	≤ ± 4.5°
Phase (30 to 43.5 GHz)	≤ ± 6.0°

Short	Spec
Length	5.01 mm
L0 (1E-12) H	8.000
L1 (1E-24) H/Hz	-995.000
L2 (1E-33) H/Hz <sup>2</sup>	33.000
L3 (1E-42) H/Hz <sup>3</sup>	-0.290
Phase (DC to 10 GHz)	≤ ± 1.5°
Phase (10 to 20 GHz)	≤ ± 2.5°
Phase (20 to 30 GHz)	≤ ± 4.0°
Phase (30 to 43.5 GHz)	≤ ± 5.5°

Load	Spec
DC Resistance	50 Ω ± 0.25 Ω
Return Loss (DC to 10 GHz)	≥ 42 dB
Return Loss (10 to 20 GHz)	≥ 36 dB
Return Loss (20 to 30 GHz)	≥ 32 dB
Return Loss (30 to 43.5 GHz)	≥ 30 dB
Max Power	0.5 W