

# Coilcraft SMD-D Test Fixture

Accurate and repeatable measurements of SMD chip inductors and other SMD components can be made using the Coilcraft SMD-D fixture with many impedance measurement instruments. The SMD-D is a two-port, 50 $\Omega$  characteristic impedance fixture appropriate for L, Z, phase, and SRF measurements.

## Fixture Characteristics

SMD Chip Size Range: 0603 to 1812

Frequency Range: DC to 6 GHz

Connectors: 3.5 mm / SMA female

## Package Contents

SMD-D Test Fixture

Shorting Bars

## General Measurement Procedure

Note: For instrument-specific procedures, follow the instructions supplied with the test instrument.

1. Determine the required test frequency or frequency range from the component data sheet or specification. Verify that the required test frequency is within the fixture frequency range.
2. Set the instrument for the required frequency range, measurement parameter (e.g. Trans: Fwd. S21), number of measurement (frequency) points, and averaging parameters.

Note: Make sure the fixture is supported evenly so that uneven forces are not applied to the electrical connections.

3. Align the SMD-D connectors with the test cable connectors. Rotate, but do not tighten the cable connectors.

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**CAUTION:** Do not over-tighten the connectors. Over-tightening can damage the center conductor.

4. Tighten the cable connectors to the recommended mating torque of 7-10 inch pounds (80-110 N•cm).
5. Select a shorting bar that is closest in size to the test component.
6. Place the shorting bar into the fixture, and center it over the gap in the circuit board trace. Lower the plunger. Perform a “thru” (or equivalent) fixture compensation. Remove the shorting bar.
7. Place the test component into the fixture, and center it over the gap in the circuit board trace. Lower the plunger.
8. Read the displayed value on the instrument.

## References

The following application notes are available on the Coilcraft website at [www.coilcraft.com/appnotes.cfm](http://www.coilcraft.com/appnotes.cfm)

Test Fixture Compatibility Chart

Calibration, Compensation and Correlation

Testing Inductors at Application Frequencies



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