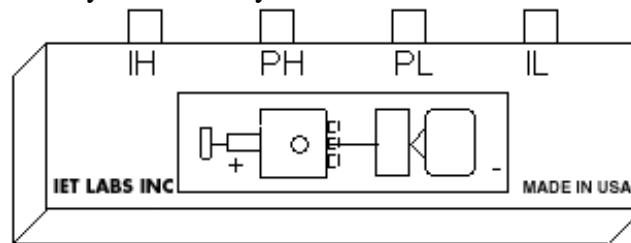


7000-07 Low Voltage, Chip Component Test Fixture Instructions

1. Introduction

The 7000-07 Low Voltage, Chip Component Test Fixture which includes BNC to BNC cable provides a method of convenient, reliable, guarded 4-terminal connection of chip or surface mount components when they are tested by an IET RLC Meter or other similar instrument.



Connections to the measuring instrument are made through cables with BNC connectors which mate directly with the RLC Meter. The cables are coded to ensure proper connections.

A four-terminal "Kelvin" measurement capability of the RLC Meter extends to the fixture contacts where the measurement becomes two terminal. Therefore, except for the fixture contacts and the component connections, the series impedance of the cables and the internal fixture connections do not affect the measurement.

When performing a short-circuit calibration residual parameters may be automatically corrected for by using the open/short calibration function of the IET RLC Meter with the contacts together. When performing an open-circuit calibration the contacts should be secured at a spacing equal to that of the component's contact spacing.

2. Specifications

Component Accommodated:

Width: 0.5 to 10 mm Height: 0.5 to 10 mm (dia: 0.5 to 3.0 mm) Length: 0.1 to 8 mm

Maximum Frequency:

2 MHz

Typical Residual Parameters (after performing open/short at DUT terminals):

C: $< 0.15 (1 + 0.002/f)$ pF L: $< 10 (1 + 0.002/f)$ nH R: $< 1 (1 + f^2)$ m Ω

where f = measurement frequency in MHz

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3. Connection

The Low Voltage, Chip Component Test Fixture includes four cables with BNC terminations for a Kelvin type connection to the measuring instrument. The red and red/white cables connect to the plus (+) side of the fixture, and the black and black/white cables connect to the minus (-) side. Make sure to connect these cables properly to the measuring instrument to ensure valid measurements with the correct sign of the impedance and the correct polarity of the bias (if any is used).

Connect the four cables from the Low Voltage, Chip Component Test Fixture to the IET RLC Meter as listed:

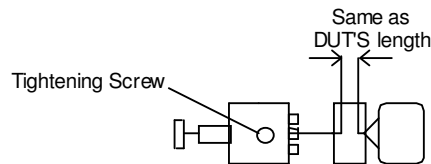
<u>Connect to RLC Meter</u>	<u>Cable Marking/Color</u>	<u>Connect to Test Fixture</u>
PH (potential, high)	PH (Red/white)	PH
IH (current, high)	IH (Red)	IH
PL (potential, low)	PL (Black/white)	PL
IL (current, low)	IL (Black)	IL

WARNING The + or the - contacts of the fixture may contain high voltage and be off ground potential if the bias is used.

4. Open/Short Zeroing

Instrument zeroing should be performed once the test fixture is connected. Refer to the instrument zeroing instructions for further information. For an OPEN the DUT should be removed but the fixture spacing should be the same as the device. This can be done by tightening the screw that holds the contact as shown below. For a SHORT the fixture contacts should be shorted together with a shorting block equivalent to spacing of the device under test.

Use of this fixture may result in an incremental error due to residuals at DUT terminals. Verify with a known standard and apply this offset to final measurements.



5. Operation

Set up the controls on the measuring instrument for the desired test conditions. To test a chip component place it between the fixture contacts making sure that each conducting side of the component is in contact with the fixture.