



Film Type RF Inductor Simple Procedure for Measuring Electrical Characteristics of the LQP02/03 Series



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1. Measurement instruments and jigs specified in specifications



Check whether the appropriate measurement instrument and jig are being used.

Table Specified measurement instruments and jigs

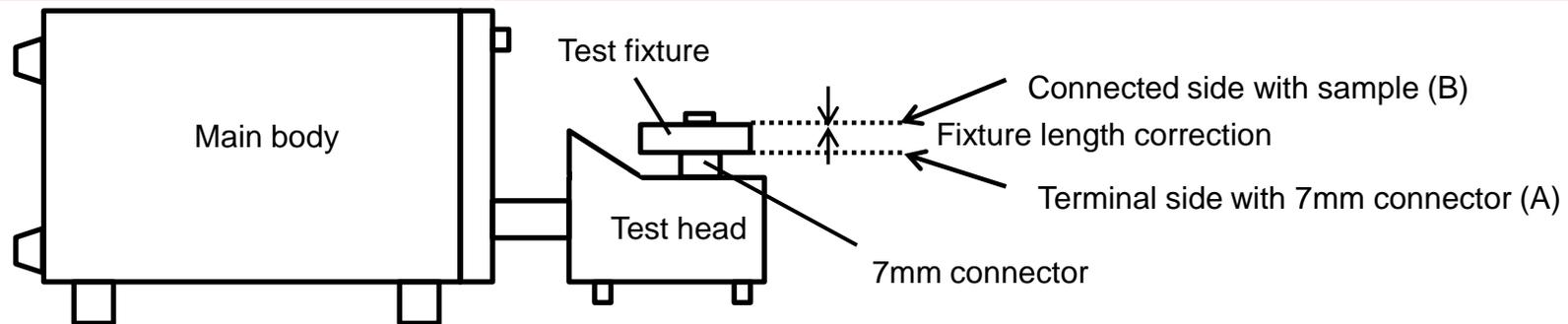
Series	LQP03TN/LQP03TG LQP03TQ/LQP03HQ	LQP02TN/LQP02TQ
measurement instruments	<p>Keysight : Equivalent products for E4991A (E4991B/4287A / E4982A)</p>	 <p>E4991A</p>
Test fixture Test head	<p>Keysight :16197A</p> 	<p>Keysight :16196D</p> 

2. Calibration and correction

To obtain accurate measurements, calibrate the measurement instrument and correct the measurement jig properly. Use the following steps to perform the calibration and correction.

Table Calibration and correction method

Step	Calibration and correction type	Calibration and correction method
1	Open/Short/Load calibration	Connect the calibration kit to the end (A) of the 7 mm connector, and perform calibration.
2	Electrical length correction	Enter the electrical length correction value in the measurement instrument, and correct the electrical length (A-B) of the measurement jig.
3	Open/short correction	Make the correction between the measurement electrodes on the measurement jig. (B)



■ Precaution

Warm up the equipment for at least 30 minutes before starting measurement and calibration.

2-1. Open/Short/Load calibration



To calibrate to the end of the 7 mm connector, attach the calibration jig 16195B calibration kit (Open/Short/Load) to the test head and perform calibration.



- ① Open
- ② Short
- ③ Low Loss C(option)
- ④ Load(50Ω)

Figure Picture of Calibration Kit (16195B)

2-2. Electrical length correction

After attaching the specified measurement jig to the test head, enter the electrical length correction value shown in the table below and correct the electrical length of the measurement jig.

Also, enter the measurement frequency according to the measured inductance value.

Table Electrical length correction value and measurement frequency by series

Series	LQP03TN/LQP03TG LQP03TQ/LQP03HQ	LQP02TN/LQP02TQ
measurement instrument	Keysight :16197A	Keysight :16196D
Electrical length correction value	10mm	27.3mm
Measurement frequency	0.1~30nH:500MHz 33~120nH:300MHz 120~270nH:100MHz	

2-3. Open/Short correction

Perform an Open/Short correction to make the correction between the electrodes on the measurement side.

Be sure to enter the specified residual inductance for the series before performing a Short correction (see Table B).

Table A Open/Short correction

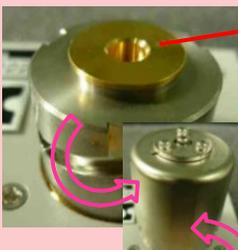
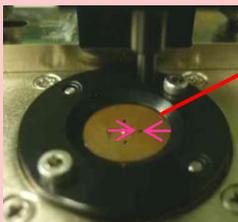
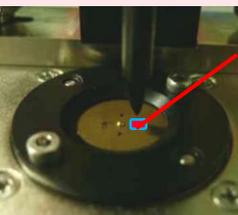
	16196D	16197A
Open correction	 <p>Open plate</p>	 <p>Do not insert anything.</p>
Short correction	 <p>Short plate</p>	 <p>Insert a 0.6 × 0.3 × 0.3 mm short bar.</p>
Remarks	Use the Open/Short plate provided with the measurement instrument to make the correction.	Use the device guide, electrode plate, and short bar provided with the 16197A-001 (device guide set for 0603) to make the correction.

Table B Residual inductance value by series

Series	Residual inductance value
LQP03TG	0nH
LQP03TN LQP03TQ LQP03HQ	0.480nH
LQP02TN LQP02TQ	0.11nH

3. Sample measurement precautions

1. The LQP03TN, LQP03TG, and LQP02TN series have direction identification marks. Be sure to check the orientation of the direction identification mark when measuring the above series.



Insert with the direction identification mark facing to the right.

Figure LQP03TN/LQP03TG series measurement method
(Test fixture :16197A)



Insert into the measurement opening with the direction identification mark facing up.

Figure LQP02TN series measurement method
(Test fixture :16196D)

2. Pushing the tip with excessive force when using the 16197A can damage the tip.

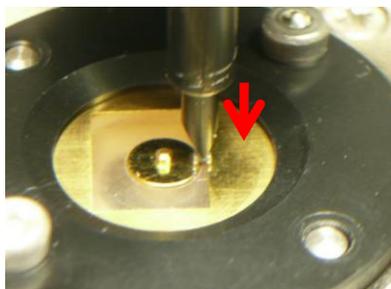


Figure Picture of Measuring method
(Test fixture :16197A)