A New Series of LCR Meters to Meet Your Applications

New LCR METER Models IM3523, IM3533, and IM3533-01 are highly cost-effective testers that provide greater performance and better functionality than previous HIOKI models, such as a high basic accuracy of ±0.05%, a wide measurement frequency from 1 mHz (40 Hz for the IM3523) to 200 kHz, high-speed measurement of up to 2 ms, highly reliable measurement using the contact-check function, and measurement of turn ratio and mutual inductance. Select the best model according to your application, from production lines to research and development.
<table>
<thead>
<tr>
<th>Model</th>
<th>Measurement speed (Basic value)</th>
<th>Measurement capabilities/ Frequency range</th>
<th>Applications and measurement object</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCR METER IM3533-01</td>
<td>2ms</td>
<td>DC 1mHz 200kHz</td>
<td>High-end model of the IM3523 and IM3533 with sweep measurement. For electrochemistry applications, research and development and production lines of electronic components</td>
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<tr>
<td>LCR METER IM3533</td>
<td>2ms</td>
<td>DC 1mHz 200kHz</td>
<td>Capable of special measurements of transformers including turn ratio and mutual inductance. Particularly useful in production lines and research and development of transformers, coils, etc.</td>
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<tr>
<td>LCR METER IM3523</td>
<td>2ms</td>
<td>DC 40Hz 200kHz</td>
<td>Extremely cost-effective model suitable for production lines including integration into automated machinery. For C-D and ESR measurement of electrolytic capacitors and L-Q and DCR measurement of inductors</td>
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<tr>
<td>LCR HiTESTER 3535</td>
<td>6ms</td>
<td>DC 100kHz 120MHz</td>
<td>High-frequency measurement at 120 MHz. Ideal for production lines of ferrite beads and inductors. Requires the 9700-10 Head Amp</td>
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<tr>
<td>IMPEDANCE ANALYZER IM3570</td>
<td>0.5ms</td>
<td>DC 4Hz 5MHz</td>
<td>LCR meter integrated with impedance analyzer. Measure the frequency characteristics of piezo-electric devices, functional polymer capacitors, and power inductors</td>
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<tr>
<td>CHEMICAL IMPEDANCE ANALYZER IM3590</td>
<td>2ms</td>
<td>DC 1mHz 200kHz</td>
<td>Supports LCR impedance measurements for Cole-Cole plots and equivalent-circuit analyses. Measure electrochemical components, materials, batteries, and electric double-layer capacitors (EDLCs)</td>
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<tr>
<td>LCR HiTESTER 3532-50</td>
<td>5ms</td>
<td>DC 42Hz 5MHz</td>
<td>General-purpose LCR meter at 5 MHz. Measure electronic components such as capacitors and inductors.</td>
</tr>
<tr>
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</tr>
<tr>
<td>LCR HiTESTER 3511-50</td>
<td>5ms</td>
<td>DC 120Hz 1kHz</td>
<td>Compact LCR meter with single function. For production lines of aluminum electrolytic capacitors.</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>C METER 3506-10</td>
<td>1.5ms</td>
<td>DC 1kHz 1MHz</td>
<td>C meter for low-capacity capacitors. Ideal for testing taping machines and sorters.</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>C HITESTER 3504-40/50/60</td>
<td>2ms</td>
<td>DC 120Hz 1kHz</td>
<td>C meter for large-capacity MLCCs. For sorting machines of large-capacity MLCCs (3504-50/60) and taping machines (3504-40).</td>
</tr>
</tbody>
</table>
LCR METER IM3523

Ideal for Production Lines and Automated Testing

- ±0.05% accuracy with wide measurement range (DCR testing, 40Hz to 200kHz, 5mV to 5V, 10μA to 50mA)
- Non-stop testing over mixed measurement conditions such as C-D and ESR at 10 times the speed of previous models
- Built-in comparator and BIN functions
- Rapid 2msec test time

Note: This product is not supplied with measurement probes or test fixtures. Please select and purchase the measurement probe or test fixture options appropriate for your application separately. All probes are constructed with a 50Ω coaxial cable. For an RS-232C connection, a crossover cable for interconnection can be used. You can use the RS-232C CABLE 9507 without hardware flow control.

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LCR METER IM3533 IM3533-01

From R&D Applications to Windings, Coil and Transformer Manufacturing

- ±0.05% accuracy with wide measurement range (DCR testing, 1mHz to 200kHz, 5mV to 5V, 10μA to 50mA)
- Non-stop testing over mixed measurement conditions such as C-D and ESR at 10 times the speed of previous models
- Built-in low impedance high precision mode effective for testing lowinductance or the ESR of aluminum electrolysis capacitance (10x the measurement speed and dramatic improvements in repeatability and stability over the previous model 3522-50)
- Dedicated modes for measuring transformer winding ratio, mutual inductance and temperature compensated DCR
- Frequency sweep testing (IM3533-01 only)
- 2m/4m cable setting in addition to the standard 0m/1m(IM3533-01 only)
- Built-in comparator and BIN functions
- Rapid 2msec test time

Note: This product is not supplied with measurement probes or test fixtures. Please select and purchase the measurement probe or test fixture options appropriate for your application separately. All probes are constructed with a 50Ω coaxial cable. For an RS-232C connection, a crossover cable for interconnection can be used. You can use the RS-232C CABLE 9507 without hardware flow control.

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**Options**

- **Four-terminal probe**
  - IM3533-01
  - IM3533

- **LAN interface**
  - IM3533-01
  - IM3533

- **USB interface**
  - IM3533-01
  - IM3533

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**Basic specifications** (Accuracy guaranteed for 1 year)

**Measurement modes**
- LCR, Continuous testing

**Measurement parameters**
- Z, Y, θ, Rs, Rp, DCR, X, G, B, Cs, Cp, 50Ω (L), D (tanδ), Q

**Measurement range**
- Z: ±0.05% rdg. ±0.03°
- Y: ±0.05% rdg. ±0.03°
- θ: ±0.03°
- Rs: ±0.03°
- Rp: ±0.03°
- DCR: ±0.03°
- X: ±0.05% rdg. ±0.03°
- G: ±0.05% rdg. ±0.03°
- B: ±0.05% rdg. ±0.03°
- Cs: ±0.05% rdg. ±0.03°
- Cp: ±0.05% rdg. ±0.03°

**Measurement signal level**
- Normal mode: V mode, CV mode: ±5V to 5Vrms, 1 Vrms steps
- CC mode: ±100μA to 50mA, 1μA steps

**Output impedance**
- Normal mode: ±100Ω

**Display**
- Monochrome LCD

**Measurement time**
- 2msec (1kHz, FAST, representative value)

**Functions**
- Comparator, Classification measurement (BIN function), Panel loading/saving, Memory function

**Interfaces**
- EXT I/O (female), USB communication
- Optional: Choose 1 from RS-232C, GP-IB, or LAN

**Power supply**
- 100 to 240 VAC, 50/60 Hz, 50 VA max

**Dimensions and mass**
- 330 mm (12.99 in) W × 119 mm (4.69 in) H × 168 mm (6.61 in) D, 3.1 kg (109.3 oz)
- 260 mm (10.24 in) W × 88 mm (3.46 in) H × 203 mm (7.99 in) D, 2.4 kg (84.7 oz)

**Accessories**
- Power cord ×1, Instruction manual ×1, CD-R (Includes PC commands and sample software) ×1
**IMPEEDANCE ANALYZER**

**IM3570**

**Single Device Solution for High Speed Testing and Frequency Sweeping**

- LCR measurement, DCR measurement, sweep measurement, continuous measurement and high-speed testing achieved with one instrument
- High-speed testing, achieving maximum speeds of 1.5 ms (1 kHz) and 0.5 ms (100 kHz) in LCR mode
- High-accuracy measurements, basic accuracy of Z parameter $\pm 0.08\%$
- Perform frequency sweeps, level sweeps, and time interval measurements in analyzer mode

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**LCR HiTESTER**

3532-50

**Impedance meter with a wide test frequency range**

- High speed measurement of 5 ms
- Higher frequency range: 42 Hz to 5 MHz
- Fourteen parameters measured (High resolution and high accuracy)
- Interactive touch panel operation
- Wide setting range for measurement voltage and current

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**OPTIONS**

- FOUR-TERMINAL PROBE (DC to 100 kHz) 9140
- PINCHER PROBE (DC to 5 MHz) 9143
- TEST FIXTURE (cable connection type, DC to 5 MHz) 9261
- TEST FIXTURE (direct connection type, DC to 5 MHz) 9262
- DC BIAS VOLTAGE UNIT (± 40 V DC max.) 9268
- DC BIAS VOLTAGE UNIT (± 40 V DC max. for HDMI) 9268-01
- DC BIAS CURRENT UNIT (± 2 A DC max.) 9269

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**IM3500**

**Equivalent Circuit Analysis Firmware**

- FOUR-TERMINAL PROBE (DC to 5 MHz) 1.2000
- FOUR-TERMINAL PROBE (DC to 200 kHz) 9140-10
- PINCHER PROBE (cable length 1m, DC to 5 MHz) 9143-10
- TEST FIXTURE (cable length 1m, DC to 5 MHz) 9261-10
- FOUR-TERMINAL PROBE (DC to 120 MHz) 9262
- SMD TEST FIXTURE (direct connection type, DC to 5 MHz) 9263
- SMD TEST FIXTURE (cable length 1m, DC to 5 MHz) 9262-10
- SMD TEST FIXTURE (direct connection type, DC to 5 MHz) 9263
- DC BIAS CURRENT UNIT (± 2 A DC max.) 9269-10

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**IM9000**

**Equivalent Circuit Analysis Firmware**

- FOUR-TERMINAL PROBE (DC to 5 MHz) 1.2000
- FOUR-TERMINAL PROBE (DC to 200 kHz) 9140-10
- PINCHER PROBE (cable length 1m, DC to 5 MHz) 9143-10
- TEST FIXTURE (cable length 1m, DC to 5 MHz) 9261-10
- FOUR-TERMINAL PROBE (DC to 120 MHz) 9262
- SMD TEST FIXTURE (direct connection type, DC to 5 MHz) 9263
- SMD TEST FIXTURE (cable length 1m, DC to 5 MHz) 9262-10
- SMD TEST FIXTURE (direct connection type, DC to 5 MHz) 9263
- DC BIAS CURRENT UNIT (± 2 A DC max.) 9269-10
**CHEMICAL IMPEDANCE ANALYZER**

**IM3590**

**Ideal for Measuring Electrochemical Impedance High-precision, Easy-to-use Operation**

- 1mHz to 200kHz wide frequency source ideal for measuring ionic behavior and solution resistance
- High-speed LCR and continuous sweep testing with a single unit
- Measure the internal impedance of batteries in no-load state
- Fastest test speed of 2ms enables rapid sweep measurements
- Basic accuracy of ±0.05% ideal for both component inspections and R&D

- Rich functions such as Cole-Cole plot and equivalent circuit analysis meet advanced applications in electrochemical and material impedance (LCR) testing

**Basic specifications (Accuracy guaranteed for 1 year)**

**Measurement modes**
- LCR, Analyzer mode (Sweeps with measurement frequency and measurement level). Continuous measurement mode.

**Measurement parameters**
- Z, Y, B, Rs (ESR), Rdc, Rp, R, L, C
- Measurement range: ±(0.00000 to 9.99999) [unit], ±(0.000% to 9999.99%), ±(0.00000 to 9.99999)
- Z, Y, B, Rs (ESR): ±(0.00000 to 99999.99% [unit]), ±(0.000% to 9999.99%), ±(0.00000 to 9.99999)
- X, G, B, Cs, Lp, Cs, Cp, δ, ε

**Displayable range**
- Z, Y, B, Rs, Rp, Rdc, X, G, B, Cs, Lp, Cs, Cp, δ, ε: ±(0.00000 [unit] to 999999999 [units])

**Measurement time**
- Normal mode: 1kHz to 200kHz
- Low impedance high accuracy mode: CC mode: 10 μA to 50 mArms, 10 μArms steps
- Normal mode: CC mode: 10 μA to 100 mArms, 10 μArms steps

**Output impedance**
- Normal mode: 100 Ω
- Low impedance high accuracy mode: 25 Ω

**Power supply**
- 100 to 240 V AC, 50/60 Hz, 50 VA max.

**Dimensions and mass**
- 330 mm (12.99 in) W × 119 mm (4.69 in) H × 168 mm (6.61 in) D
- 3.1 kg (109.3 oz)

**Accessories**
- Power cord × 1, Instruction manual × 1, CD-R (Communications instruction manual and sample software [Communications control, Accuracy calculation, and screen capture]) × 1

**Note:** Test fixtures are not supplied with the unit. Select an optional test fixture or probe when ordering.

**OPTIONS**

- Four-terminal probe (DC to 100 kHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (cable length 1m, DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)

**Measurements**

- Frequency range: 1mHz to 200kHz
- Source: open terminal voltage 50mV , 500mV , 1Vrms (AC)
- Measurement time: 2 ms (1kHz, FAST, display OFF, representative value)
- Measurement speed: FAST/ MED/ SLOW/ SLOW2

**Display**
- 5.7-inch color TFT, display can be set to ON/OFF
- Real value display for Z and Y only
- Displayable range: ± (0.000° to 999.999°), ± (0.000% to 9999.999%)

**Power supply**
- 100 to 240 V AC, 50/60 Hz, 50 VA max.

**Dimensions and mass**
- 210 mm(8.27 in)W × 100 mm(3.94 in)H × 168 mm(6.61 in)D
- 2.5 kg (88.2 oz)

**Accessories**
- Instruction manual × 1, Power cord × 1, Spare fuse x1

**Options**

- Four-terminal probe (DC to 100 kHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (cable length 1m, DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)

**Note:** This product is not supplied with measurement probes or test fixtures. Please select and purchase the measurement probe or test fixture options appropriate for your application separately. For an RS-232C connection: You can use the RS-232C cable 9607 without hardware flow control.

**RC HiTESTER 3511-50**

**Compact & powerful dedicated LCR measurement in 5m second timeframes**

- High speed measurement: 5ms (1 kHz) or 13ms (120 Hz)
- Built-in high-speed comparator
- Measurement frequency: ±1kHz/120Hz selectable

**Basic specifications**

- **Measurement parameters**
  - Z, Y, B, Rs (ESR), Rdc, Rp, R, L, C, D, Q, R
- **Measurement method**
  - Source: open terminal voltage 50mV, 500mV, 1Vrms (AC)
  - Source: voltage, AC
- **Source frequency**
  - 130 Hz or 1 kHz
- **Measurement range**
  - Z, R: ±10 mΩ to ±200 mΩ (depending on condition)
  - C: ±0.01 pF to ±999.99 pF
  - L: ±1.0 µH to ±200.0 kHz
  - Rs: ±0.001 to ±1,999,000
  - Q: ±0.05 to ±999.99
- **Basic accuracy**
  - Z: ±0.01% rdg. ±0.05%
- **Measurement time**
  - Fast: 5 ms, to Slow: ±300 ms. (at 1 kHz)
  - Fast: 13 ms, to Slow: ±400 ms. (at 120 Hz)
- **Display**
  - 99999 full digits, LED
- **Comparator functions**
  - Setting: Upper and lower limit, absolute value,
  - Output: 3 levels (Hi, Lo, Lo), Open-collector, Isolated
- **External printer**
  - 9442 (use with the 9443-02/9444)
- **Power supply**
  - 100 to 240 V AC (selectable type), 50/60Hz
- **Dimensions and mass**
  - 120 mm±5pF ±100mm±5pF ±100kHz
  - 25 °C (88.2 oz)
- **Accessories**
  - Instruction manual × 1, Power cord × 1, Spare fuse x1

**OPTION**

- Four-terminal probe (DC to 100 kHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (cable length 1m, DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)
- Pincher probe (DC to 5 MHz)
- Test fixture (direct connection type, DC to 5 MHz)
- SMD test fixture (cable length 1m, DC to 5 MHz)

**Note:** Options are not supplied with the unit. Please select and purchase the measurement probe or test fixture options appropriate for your application separately. For an RS-232C connection: You can use the RS-232C cable 9607 without hardware flow control.
Enabling Simple Circuit Analysis & Detailed Acceptance/Rejection Decision-Making

- The IM9000 can automatically select the equivalent circuit model from the five typical models to minimize the differences between the measured values and the ideal frequency characteristics derived from the analysis results.
- An acceptance/rejection decision can be made for the L, C, and R elements comprising a part and the resonance sharpness (mechanical quality coefficient).
- A detailed decision can be made on the elements using the resonance of a piezoelectric element or inductor.

Note: The Equivalent circuit analysis firmware IM9000 is an optional function for the Impedance analyzer IM3570. The IM9000 is not included in the standard package. If you want to use the IM9000 function, specify the option upon purchase.

Customers who have purchased the Impedance analyzer IM3570 can add the Equivalent circuit analysis firmware IM9000 function. Please contact your local HIOKI representative.

The IM9000 optional function screen

- Five equivalent circuit analysis (Auto/Fixed) patterns
- Acceptance/rejection decision for equivalent circuit elements
- Analysis results simulation
- Cole-Cole plot and admittance circle display

Cole-Cole plot and admittance circle graphs that previously needed a PC to be displayed can now be shown on the IM3570 screen.

The Equivalent Circuit Analysis Firmware IM9000 Provides an Optional Function to Perform a Variety of Equivalent Circuit Analysis and Display Graphs
### Features

- **Simple: Automatic Selection of Equivalent Circuit Model**
  The IM9000 can automatically select the equivalent circuit model from the five typical models to minimize the differences between the measured values and the ideal frequency characteristics derived from the analysis results.

- **Detailed: Acceptance/Rejection Decision for Elements Comprising Part**
  An acceptance/rejection decision can be made for the L, C, and R elements comprising a part and the resonance sharpness (mechanical quality coefficient). A detailed decision can be made on the elements using the resonance of a piezoelectric element or inductor.

### Equivalent Circuit Analysis Firmware IM9000 Specifications

#### Equivalent Circuit Model and Measurement Items

<table>
<thead>
<tr>
<th>Three-element model</th>
<th>Four-element model</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>E</td>
</tr>
<tr>
<td>![Diagram A]</td>
<td>![Diagram E]</td>
</tr>
<tr>
<td>Coil:</td>
<td>Pizoelectric element</td>
</tr>
<tr>
<td>Core loss is large while ESR is small</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>![Diagram B]</td>
<td></td>
</tr>
<tr>
<td>Coil:</td>
<td></td>
</tr>
<tr>
<td>ESR is relatively large</td>
<td></td>
</tr>
<tr>
<td>Resistance:</td>
<td></td>
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<tr>
<td>Resistance is small and impact of the wire inductance is large</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>![Diagram C]</td>
<td></td>
</tr>
<tr>
<td>Capacitor:</td>
<td></td>
</tr>
<tr>
<td>Impact of the leakage resistance is large</td>
<td></td>
</tr>
<tr>
<td>Resistance:</td>
<td></td>
</tr>
<tr>
<td>Resistance is large and impact of the floating capacitance is large</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
</tr>
<tr>
<td>![Diagram D]</td>
<td></td>
</tr>
<tr>
<td>Capacitor:</td>
<td></td>
</tr>
<tr>
<td>General capacitor</td>
<td></td>
</tr>
</tbody>
</table>

#### Measurement items (Three-element model)

- L1 (Inductance)
- C1 (Capacitance)
- R1 (Resistance)
- Qm (Resonance sharpness)
- fr (Resonance frequency) / fa (Anti-resonance frequency)

#### Measurement items (Four-element model)

- L1 (Inductance)
- C1 (Capacitance)
- R1 (Resistance)
- C0 (Parallel capacitance)
- Qm (Resonance sharpness or mechanical quality coefficient)
- fr (Resonance frequency)
- fa (Anti-resonance frequency)
- fs (Series resonance frequency)
- fp (Parallel resonance frequency)
- fm (Maximum admittance frequency)
- fn (Minimum admittance frequency)
- f1 (Maximum susceptance frequency)
- f2 (Minimum susceptance frequency)

### Other functions

<table>
<thead>
<tr>
<th>Circuit model selection</th>
<th>AUTO (automatic selection) / HOLD (fixed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimation execution</td>
<td>AUTO (estimation is executed after frequency sweep ends) / MANUAL (estimation is executed by the user)</td>
</tr>
<tr>
<td>Sweep range using estimation</td>
<td>Normal sweep: Analysis is performed in the sweep range from the analysis start frequency to the analysis end frequency / Segment sweep: Analysis is performed in the sweep range of the set segment number</td>
</tr>
<tr>
<td>Simulation</td>
<td>Enables displaying and comparing the ideal frequency characteristics graph derived from the analysis results or the values specified by the user</td>
</tr>
<tr>
<td>Comparator</td>
<td>Runs a comparator on the analysis results and outputs the decision results to LCD, EXT, I/O R1, L1, C1, C0, Qm; HI/IN/L, absolute value setting</td>
</tr>
<tr>
<td>Display position of estimation results</td>
<td>Select the display position from upper, lower, left or right</td>
</tr>
<tr>
<td>X-Y display</td>
<td>Cole-Cole plot: Set Rs to the first measurement item, X to the third measurement item, reverse the polarity of the third measurement item, and set correction coefficient A =-1 for scaling correction Admittance circle display: Set G to the first measurement item and B to the third measurement item</td>
</tr>
</tbody>
</table>
OPTIONS

Probes and Test Fixtures for Lead Components

**FOUR-TERMINAL PROBE L2000**
Cable length 1 m (3.28 ft), DC to 5 MHz, impedance characteristics of 50 Ω, 4-terminal pair configuration, measurable conductor diameter: ø0.3 mm (0.01 in) to 5 mm (0.20 in)

**FOUR-TERMINAL PROBE 9140-10**
Direct connection type, 40 Hz to 2 MHz, measurable conductor diameter: ø0.3 mm (0.01 in) to 2 mm (0.08 in)

**FOUR-TERMINAL PROBE 9140**
DC to 100kHz, 1 m (3.28 ft) length

**TEST FIXTURE 9261**
DC to 5MHz, Cable connecting type, 1m (3.28ft) length

**TEST FIXTURE 9262**
Direct connection type, DC to 5 MHz, measurable conductor diameter: ø0.3 mm (0.01 in) to 2 mm (0.08 in)

**TEST FIXTURE 9268**
Direct connection type, 40 Hz to 2 MHz, measurable current: ±2 A DC

**TEST FIXTURE 9268-10**
Direct connection type, 40 Hz to 2 MHz, maximum allowable current of DC: 2 A

**TEST FIXTURE 9269**
42 Hz to 5 MHz, measurable conductor diameter: ø0.3 mm (0.01 in) to 5 mm (0.20 in)

**TEST FIXTURE 9269-01**
42 Hz to 5 MHz, measurable conductor diameter: ø0.3 mm (0.01 in) to 2 mm (0.08 in)

**TEST FIXTURE 9269-10**
Direct connection type, 40 Hz to 2 MHz, measurable current: ±2 A DC

**TEST FIXTURE 9269-10**
Direct connection type, 40 Hz to 2 MHz, measurable current: ±2 A DC

**TEST FIXTURE 9269-20**
Direct connection type, 40 Hz to 2 MHz, measurable current: ±2 A DC

**FOUR-TERMINAL PROBE 9500-10**
Cable length 1 m (3.28 ft), DC to 200 kHz, 4-terminal pair configuration, measurable conductor diameter: ø0.3 mm (0.01 in) to 2 mm (0.08 in)

**FOUR-TERMINAL PROBE 9143**
DC to 5 MHz, Cable length 1 m (3.28 ft)

**PINCHER PROBE 9143-10**
DC to 5 MHz, Cable length 1 m (3.28 ft)

Test Fixtures for SMD

**SMD TEST FIXTURE 9263**
Direct connection type, DC to 5 MHz, Test sample dimensions: 1 mm (0.04 in) to 10 mm (0.39 in)

**SMD TEST FIXTURE 9677**
Direct connection type, For measuring SMDs with electrodes on the side; DC to 120MHz, test sample dimensions: 3.5mm ±0.5mm (0.14in ±0.02in)

**SMD TEST FIXTURE 9699**
Direct connection type, For measuring SMDs with electrodes on the bottom; DC to 120MHz, test sample dimensions: 1mm (0.04in) to 4mm (0.16in) wide, maximum 1.5mm (0.06in) high

**PINCHER PROBE 9143**
DC to 5 MHz, Cable length 1 m (3.28 ft)

**PINCHER PROBE 9143-10**
DC to 5 MHz, Cable length 1 m (3.28 ft)

DC Bias Unit

**DC BIAS VOLTAGE UNIT 9268-10**
Direct connection type, 40 Hz to 5 MHz, maximum allowable voltage of DC: ±40 V

**DC BIAS CURRENT UNIT 9269-10**
Direct connection type, 40 Hz to 2 MHz, maximum allowable current of DC: 2 A

**DC BIAS VOLTAGE UNIT 9268**
42 Hz to 5 MHz, max. allowable voltage ±40 V DC

**DC BIAS VOLTAGE UNIT 9268-01**
For HDMI, 42 Hz to 5 MHz, max. allowable voltage: ±4 V DC

**DC BIAS CURRENT UNIT 9269**
42 Hz to 100 kHz, max. allowable current: ±0.5A DC

*When using the DC Bias Unit, external constant-voltage and constant-current sources are required.

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**HIOKI LCR Fixtures and Probes**

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*External voltage or current power supply required.

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