HIOKI

C METER 3506-10
C HiTESTER 3504



For Low Capacitance

C METER 3506-10
Measures at 1 kHz and 1 MHz



For High Capacitance MLCCs

C HiTESTERs 3504-60, 3504-50 and 3504-40
Measures at 120 Hz and 1 kHz

Ideal for testing taping machines and sorters

C METER 3506-10

- High-speed measurement with an analog measurement time of 0.6 ms (1 MHz)
- Improved noise resistance and dramatically increased repeatability for measurement of minuscule capacitance values
- Stable measurement of low-capacitance capacitors at 1 MHz

C HiTESTER 3504-60/3504-50/3504-40

- Constant-voltage measurement with an analog measurement time of 1 ms (1 kHz); ideal for measurement of high-capacitance MLCCs
- Constant-voltage measurement of high capacitance values up to 1.45 mF (120 Hz, 500 mV)
- Model 3504-60 provides four-terminal contact checking.

CE

C METER



Analog measurement times as low as 0.6 ms for improved capacitor productivity

Common Features of Models 3506-10, 3504-60, 3504-50 and 3504-40

■ C-Meter measurement frequencies comply with JIS C 5101-1

Capacitor Type	C Range	Measurement Frequency [Hz] ● Indicates recommended frequency	Supporting Models
Non-Electrolytic	C ≤ 1000 pF	1M ●	3506-10
	1000 pF < C ≤ 10 µF	1k ●	3504-60 3504-50 3504-40
	10 µF < C	120 ●	
Electrolytic	-	120 ○	3511-50 (for ref.)

■ BIN function

C measurement values can be classified into up to 14[*1] ranks for easy sorting.

*1 Models 3506-10 support up to 13 ranks.

■ Comparator function

Upper and lower limits can be specified for first (C) and second (D) parameters. Evaluation results can be indicated by beeper, LED indicators and external output, with the setting values always displayed.



■ Memory function

Measurement data is stored in the instrument and can be downloaded via GP-IB or RS-232C.

3506-10 ..... 1,000 measurements
3504-60, 3504-50 and 3504-40 .... 32,000 measurements

■ Intuitive operation with LED indicators

Simply select the desired operation on the front panel. The current measurement configuration settings are indicated by LEDs so you can check your settings at a glance.

■ Trigger-synchronous output

The measurement signal is applied to the test sample only when a measurement trigger is applied. Because large current does not flow when making and breaking contact with the sample, contact point wear is minimized.

■ Stores 99[*2] measurement configurations

Store up to 99 sets of measurement configuration settings for quick recall when switching test sample types on lines with many repeating measurements.
Any measurement configuration can be recalled by EXT I/O.

*2 Models 3506-10 store up to 70 measurement configurations.

■ Contact-checking functions included

Detect contact errors during measurement.
Improve yield rates by separately managing samples that exhibit contact errors.

■ High-speed measurements as fast as 1.5 ms (0.6 ms for analog measurements)

High-speed testing such as with taping machines is supported by the 1.5 ms minimum measurement time (at FAST, 1M Hz measurements, 3506-10). Select from FAST, NORMAL and SLOW measurement speeds.

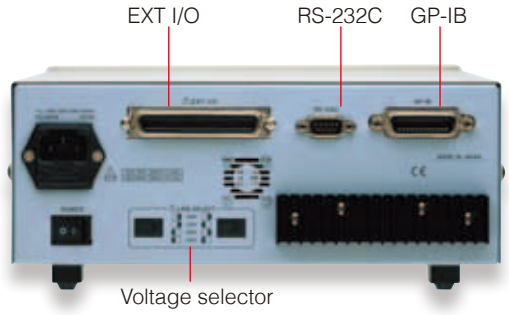
3506-10

Measurement Frequency	Output Signal	Measurement Speed FAST	NORMAL	SLOW
1 kHz	INDEX	1.1 ms	4.1 ms	13.3 ms
	EOM	2 ms	5 ms	14 ms
1 MHz	INDEX	0.6 ms	4.1 ms	13.3 ms
	EOM	1.5 ms	5 ms	14 ms

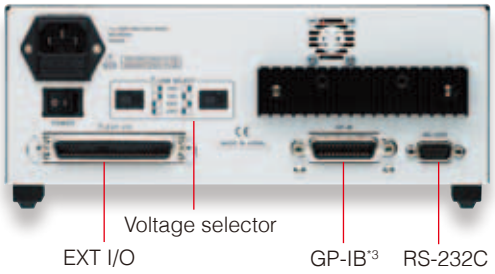
3504-60, 3504-50, 3504-40

Measurement Frequency	Output Signal	Measurement Speed FAST	NORMAL	SLOW
120 Hz	INDEX	8.3 ms	33.3 ms	133.3 ms
	EOM	10 ms	37.5 ms	146 ms
1 kHz	INDEX	1 ms	4 ms	24 ms
	EOM	2 ms	5.5 ms	29.5 ms

Easy integration into automatic testing equipment



C METER 3506-10



*3 Model 3504-40 does not include a GP-IB interface.

C HiTESTER 3504-60, 3504-50, 3504-40

■ EXT I/O

Triggering and loading of measurement conditions can be controlled externally. Capable of external output of comparator results, BIN measurement results, and end-of-measurement signals, these meters support full interfacing with automated devices.

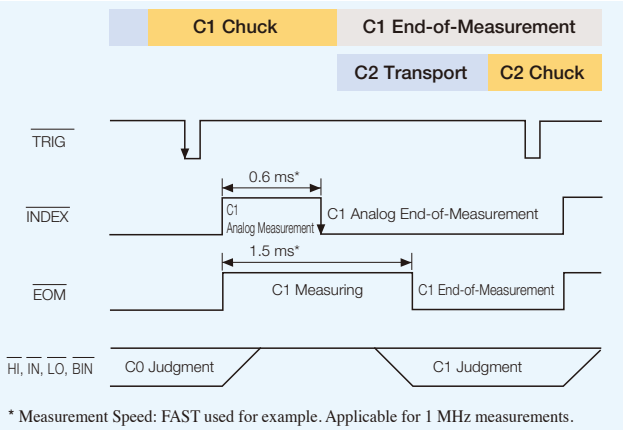
EXT I/O Features	
• Inputs • External DC power input (+5 to 24 V, may be supplied from external device) • External trigger signal • Panel number (Measurement configuration) selection • Panel-number-valid signal • Calibration	• Outputs • Internal DC power output (+5 V) • Comparator result output (first and second parameters, and ANDed results) • Bin measurement judgment output • Analog End-of-Measurement signal • End-of-Measurement signal • Error message output

■ RS-232C and GP-IB interface*4

Except for turning the instrument's power on and off, all meter functions can be controlled from a computer. This facilitates efficient data handling when controlling or processing data in batches on a computer or when setting instrument processing or measurement conditions.

*4 GP-IB is available on Model 3504-60, 3504-50, 3504-40.

■ EXT I/O Timing Chart



* Measurement Speed: FAST used for example. Applicable for 1 MHz measurements.

RS-232C interface	
• Transfer method: Start-stop transfer • Data length: 8 bits • Stop bit: 1 bit	• Transfer speed: 9600, 19200 bps • Parity: None • Delimiter: CR+LF, CR

GP-IB interface

- IEEE-488-2 1987 common commands (mandatory) can be used
- Conformance standard: IEEE-488.1 1987
- Reference standard: IEEE-488.2 1987

C METER 3506-10

Measure low-magnitude capacitors with high accuracy



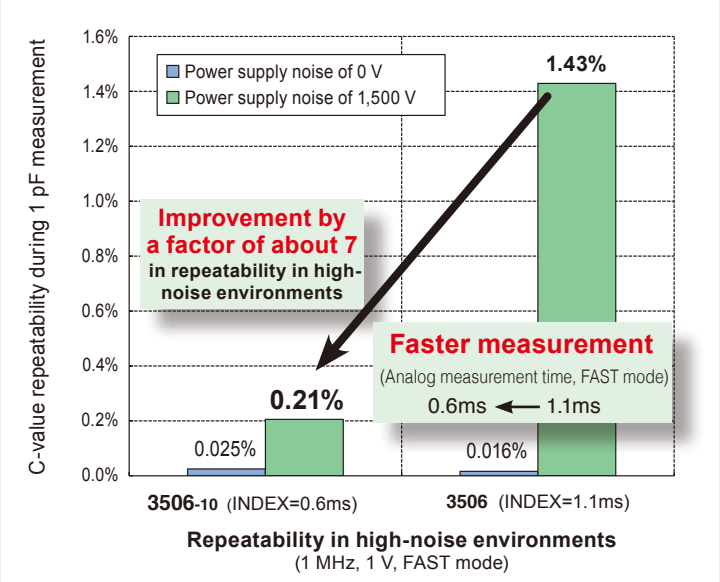
Measurement parameters and frequency ranges

	Range of Measurements (C, D)	Measurement Frequencies		
		120 Hz	1 kHz	1 MHz
3506-10	C: 0.000 fF to 15.0000 µF D: 0.00001 to 1.99999	N/A	✓	✓

Features of Models 3506-10 C METER

■ Faster measurement and improved repeatability

Compared to the previous model (3506), the 3506-10 delivers higher measurement speeds in FAST mode and an improvement by a factor of approximately 7 in repeatability for measurement of minuscule capacitance values in high-noise environments. These characteristics make the instrument ideal for embedded measurement in taping machines, sorters, and other automatic systems.

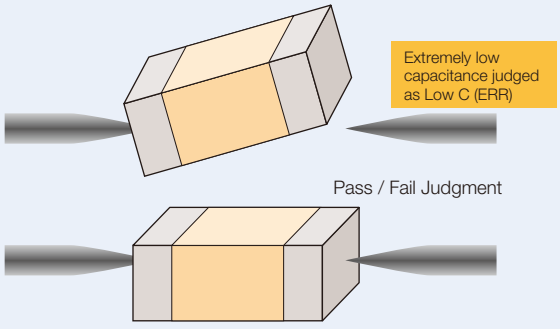


■ Enhanced absolute accuracy

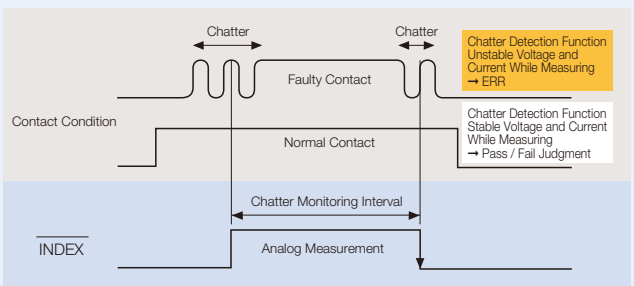
A self-calibration function minimizes variations in measurement values due to changes in ambient temperature. In addition, the cable-length-compensation function minimizes measurement errors when the measurement cable is extended from 1 to 2 meters (using 1.5D-2V cable).

■ Enhanced contact-checking function

Contact errors while measuring can be detected by the Chatter Detection function, Low-C Reject function, Current Detection Circuit Monitoring function and the Applied Voltage Value Monitoring function.
Yield rates are improved by judging measurement-object contact errors as ERR instead of FAIL.



Low-C Reject Function



Chatter Detection Function

■ Specifications

Measured parameters	C (Capacitance), D (dissipation factor tan δ), Q (1/tan δ)
Measurement frequencies	1 kHz and 1 MHz Accuracy: ±0.01% or better Frequency shift: 1 MHz ±1%, ±2%
Measurement signal level	Open-circuit terminal voltage: 500 mV or 1 V Signal level accuracy: ±10% ±5 mV Output resistance: Approx. 1Ω (@1 kHz in 2.2 µF and higher ranges), approx. 20 Ω (in ranges other than the above)
Range of measurable values	C: 0.000 fF to 15.0000 µF D: 0.00001 to 1.99999 Q: 0.0 to 19999.9
Equivalent circuit mode	Series-Parallel Equivalent Circuit mode (Auto/Manual)
Measurement time	Representative value: 1.5 ms (FAST) (Actual measurement time depends on measurement configuration settings)
Measurement speed	FAST, NORMAL and SLOW
Averaging function	1 to 256
Low-C reject function	Bad Contact Detection (open circuit between terminals)
Chatter detection function	Bad Contact Detection (chatter)
Current detection circuit monitoring function	A measurement signal fault is detected when external noise causes measurement levels to be out of tolerance for the measurement range.
Applied voltage value monitoring function	An error is detected when voltage monitored across a test sample is outside of the judgment standard.
Trigger function	Internal and external triggers can be enabled
Trigger delay	0 to 9.999 s
Memory function	Up to 1,000 measurement values can be stored in the instrument (Downloadable by GP-IB and RS-232C)

Compensation	Open- and short-circuit compensation, load and cable length compensation, and self calibration
Trigger-synchronous output function	Functions to inhibit measurement voltage except while actually measuring
Key-lock function	Settings can be made and cancelled by front panel keys
BIN measurement	C: 13 ranks, D-NG, OUT OF BINS, Absolute value setting, Δ setting, Δ% setting
Comparator	C: HI, IN, LO; D(Q): HI, IN, LO Absolute value setting, Δ setting, Δ% setting
Panel save and load	70 setting configurations can be stored Load method: key operation or external I/O
Audible beeper	Setting the buzzer for comparator judgment results (IN or NG) to ON or OFF is possible
Interface	RS-232C, GP-IB and EXT I/O (included as standard)
Printer function	Measurement values can be printed (requires Model 9442 or 9444 cable)
Display device	LEDs (on/off)
Operating temperature and humidity	0 to 40°C, 80% rh or less (non-condensating)
Storage temperature and humidity	-10 to 55°C, 80% rh or less (non-condensating)
Operating environment	Indoors, to 2000 m ASL
Power supply	Selectable 100, 120, 220 or 240 V ±10%, 50/60 Hz
Max. power consumption	40 VA
Withstand voltage	Power line to ground: 1.39 kV AC for 15 s
Backup battery life	Approx. 6 years
Dimensions	Approx. 260 W × 100 H × 298 D mm (10.24" W × 3.94" H × 11.73" D) (exc. projections)
Mass	Approx. 4.8 kg (169.3 oz)
Applicable standards	EMC: EN61326, EN61000-3-2, EN61000-3-3 Safety: EN61010-1
Supplied accessories	Power Cord, Spare Fuse

Measurement accuracy and range

Temp. and humidity for guaranteed accuracy: 23°C ±5%, 80% rh or less (non-condensating)
Warm-up time: 1 h, with open- and short-circuit compensation, and self calibration set to Auto

■ Measurement area C: 0.001 fF to 15.0000 µF; D: 0.00001 to 1.99999

■ Measurement accuracy

Use the following equation to calculate the measurement accuracy.

Measurement accuracy = basic accuracy × B × C × D × E

[B: Measurement signal level coefficient]
1 V: 1, 500 mV: 2

[C: Measurement speed coefficient]
FAST: 1.5 (1k Hz), 3 (1M Hz)
NORMAL: 1.2,
SLOW: 1

[D: Cable length coefficient] (using 1.5D-2V cable)
0 m: 1, 1 m: 1.5, 2 m: 2

[E: Temperature coefficient]
$1 + 0.1 \times |t-23|$
t = operating temperature (°C)

■ Basic accuracy (Accuracy guaranteed for 1 year when D ≤ 0.1, Post-adjustment accuracy guaranteed for 1 year)

C range	Parameter	Accuracy 1 kHz
100 pF	C	0.12%rdg+0.2%rdg×(Cr/Cx)
	D	0.002+0.001×(Cr/Cx)
220 pF	C	0.12%rdg+0.08%rdg×(Cr/Cx)
	D	0.0012+0.0004×(Cr/Cx)
470 pF	C	0.12%rdg+0.04%rdg×(Cr/Cx)
	D	0.0012+0.0003×(Cr/Cx)
1 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.0012+0.0003×(Cr/Cx)
2.2 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.0012+0.0003×(Cr/Cx)
4.7 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
10 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
22 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
47 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
100 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
220 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
470 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
1 µF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
2.2 µF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
4.7 µF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
10 µF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)

C range	Parameter	Accuracy 1 MHz
220 fF	C	0.2%rdg+1%rdg×(Cr/Cx)
	D	0.004+0.002×(Cr/Cx)
470 fF	C	0.15%rdg+0.3%rdg×(Cr/Cx)
	D	0.003+0.001×(Cr/Cx)
1 pF	C	0.12%rdg+0.16%rdg×(Cr/Cx)
	D	0.002+0.001×(Cr/Cx)
2.2 pF	C	0.12%rdg+0.08%rdg×(Cr/Cx)
	D	0.0012+0.0004×(Cr/Cx)
4.7 pF	C	0.12%rdg+0.04%rdg×(Cr/Cx)
	D	0.0012+0.0003×(Cr/Cx)
10 pF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.0012+0.0003×(Cr/Cx)
22 pF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
47 pF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
100 pF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
220 pF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
470 pF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)
1 nF	C	0.12%rdg+0.02%rdg×(Cr/Cx)
	D	0.001+0.0003×(Cr/Cx)

[Cx : the electrical capacity of the sample / Cr : the electrical capacity of the measurement range]

C HiTESTER 3504-60, 3504-50 and 3504-40

Perform high-speed, constant-voltage testing even of high-capacitance MLCCs



Measurement parameters and frequency ranges

	Range of Measurements (C, D)	Measurement Frequencies		
		120 Hz	1 kHz	1 MHz
3504-60 3504-50 3504-40	C: 0.9400 pF to 20.0000 mF D: 0.00001 to 1.99999	✓	✓	N/A

Functional differences between Models 3504-60, 3504-50 and 3504-40

	Constant-Voltage Measurement (CV)			Four-Terminal Contact Check Function	Bin Function	Interface		
	100mV	500mV	1V			RS-232C	GP-IB	EXT I/O
3504-60	✓	✓	✓	✓	✓	✓	✓	✓
3504-50	N/A	✓	✓	N/A	✓	✓	✓	✓
3504-40	N/A	✓	✓	N/A	N/A	✓	N/A	✓

Features of Model 3504-60, 3504-50 and 3504-40 C HiTESTERs

■ Constant voltage measurement (CV)

Constant measuring voltages of 1 V, 500 mV and 100 mV*1 are provided for voltage-dependent capacitance measurements. Measurement frequency is selectable from 120 Hz or 1 kHz.

*1 100 mV in Model 3504-60 only.

■ Compatible with taping machine assemblies

Model 3504-40 provides the speed and good cost-performance suitable for taping machine systems.

■ Four-Terminal Contact-Checking Function

The 3504-60 features a 4-terminal contact checking mechanism. Detection of contact errors involving all four terminals, including the POT terminal, ensures improved measured value reliability.

■ Enhanced Contact-Checking Functions

Contact errors can be detected while measuring by the Low-C Reject and Chatter Detection functions.
Yield rates are improved by judging measurement object contact errors as ERR instead of FAIL.

■ Specifications

Measured parameters	C (capacitance), D (dissipation factor tan δ)
Measurement frequencies	120 Hz or 1 kHz Accuracy: ±0.01% or better
Measurement signal level *1 100 mV in Model 3504-60 only	(1) Constant voltage mode: 100 mV*1, 500 mV and 1 V CV 1V measurement ranges: up to 70 µF range (1 kHz) up to 0.7 mF range (120 Hz) CV100 mV*1, CV 500 mV measurement ranges: up to 170 µF range (1 kHz) up to 1.45 mF range (120 Hz) Signal level accuracy: ±10% ±5 mV (2) Open terminal voltage mode: 100 mV*1, 500 mV and 1 V Measurement range: Other than the above Output resistance: approx. 5Ω Signal level accuracy: ±10% ±5 mV
Range of measurable values	C: 0.9400 pF to 20.0000 mF D: 0.00001 to 1.99999
Equivalent circuit mode	Series/parallel equivalent-circuit mode (Auto/Manual)
Measurement time	Nominal 2 ms (1 kHz, FAST) (The measurement time differs depending on the measurement frequency and measurement speed that are set.)
Measurement speed	FAST / NORMAL / SLOW
Trigger function	Internal and external trigger sources can be selected.
Trigger delay	0 to 9.999 s (at 0.001 s resolution)
Compensation	Open, Short, Load and Offset compensation, Self-calibrating
Averaging function	1 to 256
Four-terminal contact-checking function* (* 3504-60 only)	Detects contact anomalies (open state in four-terminal measurements)
Low-C reject function	Detects contact anomalies (open state in two-terminal measurements)
Chatter detection function	Detects contact bounce (chatter)

Trigger-synchronous output function	Function to apply a measurement signal only when performing measurement.
Key-lock function	The key lock can be set and cancelled by key operation on the front panel
BIN measurement (Not available on the 3504-40)	C; 14 ranks, D-NG, OUT OF BINS Absolute value setting, Δ% setting
Memory function	Up to 32,000 measurement values can be stored in the instrument (Downloadable by GP-IB and RS-232C)
Comparator	C: HI / IN / LO, D: HI / IN / LO Absolute value setting, Δ% setting
Panel save and load	Up to 99 sets of measurement conditions can be saved. Load method: Key operation, external I/O.
Audible beeper	The beeper can be set on or off according to the comparator evaluation result ("IN" or "NG") and Bin decision result.
Interface	Models 3504-50, 3504-60: RS-232C, GP-IB, EXT I/O (standard) Model 3504-40: RS-232C, EXT I/O (standard)
Printer function	Measurement values can be printed (requires Printer 9442 and optional Connection Cable 9444)
Display device	LED
Operating temperature and humidity	0 to 40°C, 80% rh or less (no condensation)
Storage temperature and humidity	-10 to 55°C, 80% rh or less (no condensation)
Operating environment	Indoors, up to 2000 m ASL
Power supply	AC 100 V, 120 V, 220 V, or 240 V±10% (selectable), 50/60 Hz
Max. power consumption	110 VA max.
Withstand voltage	Power line to ground, AC 1.69 kV, 15 sec.
Backup battery life	Approx. 6 years
Dimensions	Approx. 260 (W) × 100 (H) × 220 (D) mm (10.24" W × 3.94" H × 8.66" D) (excluding protrusions)
Mass	Approx. 3.8 kg (134.0 oz)
Applicable standards	EMC: EN61326, EN61000-3-2, EN61000-3-3 Safety: EN61010-1
Supplied accessories	Power cord, spare fuse

Measurement accuracy and range

Temp. and humidity for guaranteed accuracy: 23°C ±5%, 80% rh or less (non-condensating)
Warm-up time: 1 h, with open- and short-circuit compensation

■ Measurement area C: 0.9400 pF to 20.0000 mF; D: 0.00001 to 1.99999

■ Measurement accuracy

Use the following equation to calculate the measurement accuracy.

Measurement accuracy = basic accuracy × B × C × D × E

[B: Measurement signal level coefficient]
1 V and 500 mV: 1,
100 mV: 1.5

[C: Measurement speed coefficient]
FAST: 1.5
NORMAL: 1.0 (at 1k Hz, 1 V),
1.2 (except at 1k Hz, 1 V)
SLOW: 1

[D: Cable length coefficient] (using 1.5C-2V cable)
0 m: 1
1 m: 1 (at 1k Hz, 1 V)
1.5 (except at 1k Hz, 1 V)

[E: Temperature coefficient]
1+0.1× |t-23|
t = operating temperature (°C)

■ Basic accuracy (Accuracy guaranteed for 6 months when D ≤ 0.1, Post-adjustment accuracy guaranteed for 6 months)

Range No.	C range		Basic accuracy *2			CV operation
	120 Hz	1 kHz	Parameter	120 Hz	1 kHz	
1	200 pF	20 pF	C	±0.20%rdg.±300dgt.	±0.20%rdg.±300dgt.	✓
			D	±0.0120±2/C_L	±0.0120±0.25/C_L	
2	2 nF	200 pF	C	±0.20%rdg.±60dgt.	±0.20%rdg.±60dgt.	✓
			D	±0.0020±2.2/C_L	±0.0020±0.265/C_L	
3	20 nF	2 nF	C	±0.16%rdg.±20dgt.	±0.14%rdg.±20dgt.	✓
			D	±0.0036	±0.0036	
4	200 nF	20 nF	C	±0.15%rdg.±15dgt.	±0.13%rdg.±15dgt.	✓
			D	±0.0020	±0.0020	
5	2 µF	200 nF	C	±0.15%rdg.±15dgt.	±0.13%rdg.±15dgt.	✓
			D	±0.0016	±0.0016	
6	20 µF	2 µF	C	±0.15%rdg.±15dgt.	±0.09%rdg.±10dgt.	✓
			D	±0.0020	±0.0016	
7	200 µF	20 µF	C	±0.25%rdg.±20dgt.	±0.13%rdg.±15dgt.	✓
			D	±0.0035	±0.0030	
8	0.7 mF(1V) 1.45 mF(500 mV, 100 mV)	70 µF(1V) 170 µF(500 mV, 100 mV)	C	±1.2%rdg.±50dgt.	±0.7%rdg.±40dgt.	✓
			D	±0.0060	±0.0050	
9	2 mF	200 µF	C	±1.2%rdg.±50dgt.	±0.7%rdg.±40dgt.	N/A
			D	±0.0060	±0.0050	
10	20 mF	2 mF	C	±2.5%rdg.±50dgt.	±2.0%rdg.±40dgt.	N/A
			D	±0.0200±0.008×C_H	±0.0180±0.08×C_H	

[C_L: Capacitance of component (pF), C_H: Capacitance of component (mF)]
*2 Accuracy of range nos. 1 and 2 are not guaranteed at 100 mV measurement signal level.

LCR meter for production lines and automated testing

LCR METER IM3523 CE



- ± 0.05% accuracy with wide measurement range (DCR testing, 40Hz to 200kHz, 5mV to 5V, 10uA to 50mA)
- Non-stop testing over mixed measurement conditions such as C-D and ESR at 10 times the speed of previous models (compare with the model 3522-50)
- Built-in comparator and BIN functions
- Rapid 2ms test time

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 1.5D-2V coaxial cable.
For an RS-232C connection: A crossover cable for interconnection can be used. You can use the RS-232C CABLE 9637 without hardware flow control.

Single Device Solution for High Speed Testing and Frequency Sweeping

IMPEDANCE ANALYZER IM3570



CE

- LCR measurement, DCR measurement, sweep measurement, continuous measurement and high-speed testing achieved with one instrument
- High-speed testing, achieving maximum speeds of 1.5ms (1 kHz) and 0.5ms (100kHz) in LCR mode
- High-accuracy measurements, basic accuracy of Z parameter: ± 0.08%

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: A crossover cable for interconnection can be used. You can use the RS-232C CABLE 9637 without hardware flow control.

Special Model with 100 mV Measurement Signal

C METER 3506-10 100 mV special model



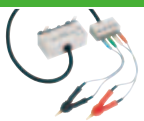
CE

- 100 mV measurement signal level (500 mV measurement signal level not available)
- Ideal for use in applications requiring a low measurement signal level, for example diode junction capacitance measurement

Contact your HIOKI distributor for more information about this special model.

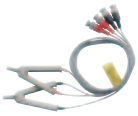
Model Configurations and Options

Probes and Test Fixtures for 3506-10



FOUR-TERMINAL PROBE L2000

Cable length 1 m (3.28 ft), DC to 8 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

Cable length 1 m (3.28 ft), DC to 200 kHz, impedance characteristics of 50 Ω, 4-terminal pair configuration, measurable conductor diameter: ø0.3 mm (0.01 in) to 5 mm (0.20 in)

Probes and Test Fixtures for 3504-60/3504-50/3504-40



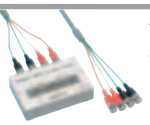
FOUR-TERMINAL PROBE 9140

Cable length 1 m (3.28 ft), DC to 100 kHz, impedance characteristics of 75 Ω, 5-terminal design, 4 electrode terminals, measurable conductor diameter: ø0.3 mm (0.01 in) to 5 mm (0.20 in)



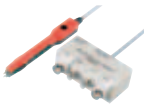
TEST FIXTURE 9261

Cable length 1 m (3.28 ft), DC to 8 MHz, impedance characteristics of 75 Ω, 4-terminal design, 4 electrode terminals, measurable conductor diameter: ø0.3 mm (0.01 in) to 1.5 mm (0.06 in)



TEST FIXTURE 9261-10

Cable length 1 m (3.28 ft), DC to 8 MHz, impedance characteristics of 50 Ω, 4-terminal pair configuration, measurable conductor diameter: ø0.3 mm (0.01 in) to 1.5 mm (0.06 in)



PINCHER PROBE L2001

*Ships standard with one set of IM9901

Cable length 730 mm (2.40 ft), DC to 8 MHz, characteristic impedance of 50 Ω, 4-terminal pair design, 2-terminal electrode, tip electrode spacing of 0.3 to approx. 6 mm (0.01 to approx. 0.24 in)

Options for L2001 Replaceable contact tips



CONTACT TIPS IM9901
Compatible chip sizes: 1608 to 5750 (JIS)



CONTACT TIPS IM9902
Compatible chip sizes: 0603 to 5750 (JIS)



SMD TEST FIXTURE IM9100

Measurable range: DC to 8 MHz, For SMD with electrodes on bottom, Measurable sample sizes: 01005 to 0402 (EIA) 0402 to 1005 (JIS), Direct connection type



SMD TEST FIXTURE IM9110

Measurable range: DC to 1 MHz, For SMD with electrodes on side , Measurable sample sizes: 008004 (EIA), 0201 (JIS), Please contact Hioki for information about other sizes, Direct connection type

Probes and Test Fixtures for 3506-10/3504-60/3504-50/3504-40



TEST FIXTURE 9262

Direct connection type, DC to 8 MHz, measurable conductor diameter: 0.3 to 2 mm (0.01 to 0.08 in)



SMD TEST FIXTURE 9263

Direct connection type, DC to 8 MHz, Test sample dimensions:1 mm (0.04 in) to 10 mm (0.39 in)



SMD TEST FIXTURE 9677

Direct connection type, Electrodes on side for SMD, DC to 120 MHz, Test sample dimensions: 3.5 mm ±0.5 mm (0.14 in ±0.02 in)



SMD TEST FIXTURE 9699

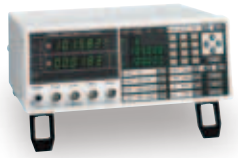
Direct connection type, Electrodes on bottom for SMD, DC to 120 MHz, Test sample dimensions: 1.0 mm (0.04 in) to 4.0 mm (0.16 in) wide, maximum 1.5 mm (0.06 in) high



For Low-Magnitude Capacitors

Model: C METER 3506

Model No. (Order Code)	(Note)
3506-10	Measurement frequencies: 1 kHz and 1 MHz



For High-Magnitude MLCC

Model: C HiTESTER 3504

Model No. (Order Code)	(Note)
3504-60	Measurement frequencies: 120 Hz and 1 kHz, constant voltage measurement at 100 mV, 500 mV and 1 V, four-terminal contact-checking function, with GP-IB, RS232C
3504-50	Measurement frequencies: 120 Hz and 1 kHz, constant voltage measurement at 500 mV and 1 V, with GP-IB, RS232C
3504-40	Measurement frequencies: 120 Hz and 1 kHz, constant voltage measurement at 500 mV and 1 V, no GP-IB interface, no Bin function, with RS232C interface

Probe and test fixtures are not supplied with the unit. Select an optional probe and test fixture when ordering.

Printer



PRINTER 9442

(The optional Connection Cable 9444 and AC Adapter are required to connect the Printer 9442.)

Measurement values, comparator results, and BIN measurement results can be printed out on the optional Printer 9442 via the standard RS-232C interface. Convenient for applications that require printed data to be attached to inspection results.

■ Printer 9442 specifications

- Printing method: Thermal serial dot printer
- Paper width: 112 mm
- Print speed: 52.5 cps
- Power supply: AC Adapter 9443 or supplied NiMH battery (prints 3000 lines after full charge using 9443)
- Dimensions and weight: Approx. 160W × 66.5H × 170D mm (6.30"W × 2.62"H × 6.69"D), 580 g (20.5 oz)

AC ADAPTER 9443-01
(for 9442, Japan)

AC ADAPTER 9443-02
(for 9442, EU)

CONNECTION CABLE 9444
(for 9442)

RECORDING PAPER 1196
(for 9442, 25 m (984.25"), 10 rolls)

Interface Cable



GP-IB CONNECTION CABLE 9151-02
2 m (6.56 ft) length

Note: Company names and Product names appearing in this catalog are trademarks or registered trademarks of various companies.

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