Latest Handy LCR Chips Measuring Smart Tweezer Model ST-5S

INDE
reliable & caring since 1976

Siborg is also a re-seller like Inde, they are not manufacturer of Smart Tweezers

SMART TWEEZERS

Advance Devices, Inc. Canada is the ORIGINAL and ONLY Single manufacturer of Smart Tweezers in the world. Inde Enterprises is their Indian distributor and after-sales-service partner. We keep all spare parts to provide our proven after-sales-service.

Additional Features in latest ST5S

- Smart Tweezers™ LCR meter allows you to test various component types, including secondary components of Dissipation Factor (D), Quality Factor (Q). This handheld model also includes other functions that result in a more detailed component analysis.
- The in-built ESR mode (Equivalent Series Resistance) helps you better understand the inherent resistance - behavior typically found in capacitors across selected frequencies.
- in its DIODE mode, Smart Tweezers ™ tests diode polarity and indicates if it is short.
- This Smart Tweezers™ has a continuity detector for variable beeper sounds for resistance reading below set thresholds. Additionally, this function helps to locate shorted conductors (e.g. on a PCB)
- In manual mode, the Smart Tweezers™ measures a specific circuit parameter like L, C, R, Z or ESR. Manual modes also improves overall component type identification for in-circuit tests.
- Variable test signal output from 0.5 to 1.0 Vrms, allows to improve testing precision in different situation e.g. for in-circuit measurement and loose leaded ceramic capacitors.
- Visible and audible tolerance mode allows to perform component sorting.
- Math null function allows to store a pre-measured offset and improves measurement precision.

To avoid damage to SMART TWEEZER ⚠ and to avoid electrical shock ⚠

- **Disconnect circuit power supply & discharge all high-voltage capacitors before testing R, L & C**
- **Don't attempt to measure any in-circuit components when your circuit is alive or active**
- **Don't apply external voltage of more than 1.6V**
- **To charge the battery use only DC5V charger**

Click here to view Video

Technical Specifications

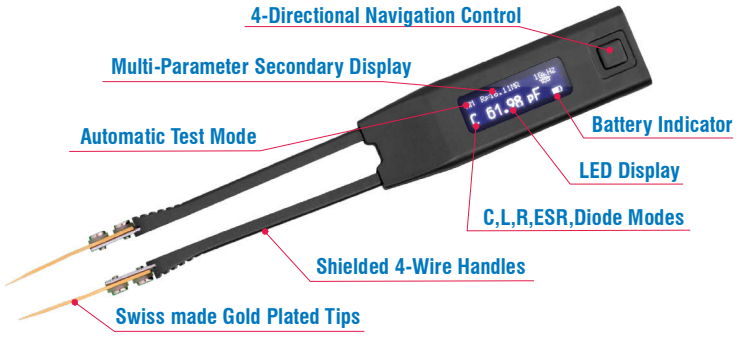
AC Test Mode frequency	: 1kHz, 10kHz, 120Hz, 100Hz
Test Signal Level	: 0.41/0.91 +/- 5% V_{rms} Sine wave
Test frequency accuracy	: 50PPM (0.005%), 0.3% for120Hz
Source Impedance	: 100Ω +/- 1%

Measurement Ranges

Resistance R	: 0.05Ω to 9.9 MΩ
Capacitance C	: 0.5 pF to 9999 uF
Inductance L	: 0.5 uH to 999 mH
Quality factor Q	: 0.001 to 1000
Dissipation factor D	: 0.001 to 1000

Other Specifications

Size	: 15.0 x 1.8 x 1.5 cm approx.
Weight	: 29 grams approx.
Battery Type	: 3.7V LiPO rechargeable 180mAH
Battery Life (continuous)	: 20 hours, 3 hours charging cycle



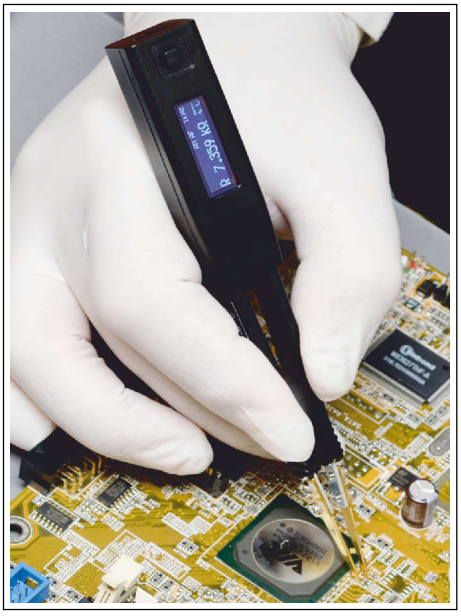
Warranty is 12 months from the date of invoice.
It excludes batteries, misuse and any mechanically damaged part.

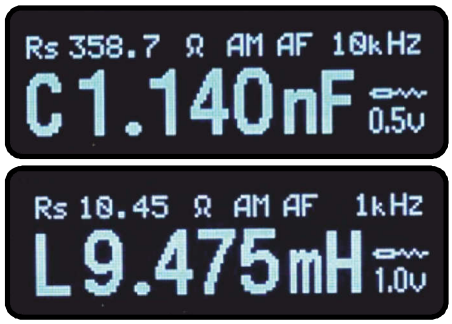
on-site services can be provided at extra charges if pre-paid by customer in advance

Website: www.indeonline.in • Phones: 9316134502 & 9815600745 • Email: romesh1947@gmail.com & info@indeonline.in

An Efficient and Convenient Way to Test SMD Chip Components

- Built-in high-precision LCR probe
- Convenient one-hand operation
- Ideal for Surface Mount Devices
- Automated component identiication
- Automated test range selection
- Manual C, R, L, Z and ESR Modes
- Adjustable test signal levels
- Swiss-made precise test leads
- Diode Polarity/Short Testing
- Secondary D, Q and ESR parameters
- Extensive in-circuit test capabilities
- Built-in Li-PO battery





Smart Tweezers™ greatly simplifies testing and troubleshooting process.

Resistance, capacitance and inductance can be measured with automatic selection of the test parameters and range.

Smart Tweezers™ is a handheld LCR meter of a new concept. It provides perfect solution tor test and identify SMD Chip parts as well helps in troubleshooting of complex electronic systems. Its unique mechanical and electronic design combines a pair of precision gold-plated tweezers and a digital LCR meter in compact, lightweight, battery powered instrument. It measures resistance, capacitance, inductance with high accuracy, also indentifies component identifications automatically.

Testing SMDs (Surface Mount Devices)

Surface mount devices are usually tiny and without wire leads, making them more difficult to test and identify than conventional leaded components. Smart Tweezers™ gives users an easy way to sort and evaluate loose components and to perform on-board measurements and debugging.

Precise Tips reliably contact even the smallest SMD components and take measurements from already soldered devices. The Probe can also be used to test conventional components with wire leads too short to insert into the test terminals.

Automated Measurements

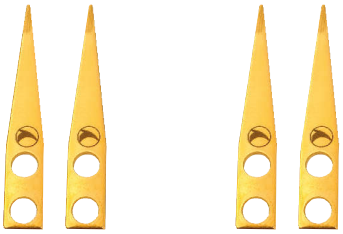
The Smart Tweezers™ measures quickly and accurately using the automatic component identification feature, thus eliminating unnecessary trial and error time. Smart Tweezers™ automatically specifies L, C, or R with parallel and series mode and selects a proper measurement range and test frequency for high accuracy measurements. The unit displays component type and more detailed component analysis such as Z and ESR.

Lightweight and Ergonomic

The integrated measurement Tips allow the operator to use one hand and focus attention on the tested component and on the job at hand. Sorting, testing and troubleshooting become more efficient and cost effective. 4-wire shielded Smart Tweezers™ assures low capacitance measurement and resistance offset

High Precision Gold Plated Test Lead Tips

Spare High Precision Straight Tips



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Accuracy Specifications

Resistance, Impedance

Range	Resolution	100 Hz	1 kHz	10kHz
1 Ω	0.001 Ω	0.7% + 50	0.7% + 50	0.7% + 50
10 Ω	0.01 Ω	0.7% + 8	0.7% + 8	0.7% + 8
100 Ω	0.01 Ω	0.2% + 3	0.2% + 3	0.2% + 3
1000 Ω	0.1 Ω	0.2% + 3	0.2% + 3	0.2% + 3
10 kΩ	0.001 kΩ	0.2% + 3	0.2% + 3	0.2% + 3
100 kΩ	0.01 kΩ	0.5% + 5	0.5% + 5	0.5% + 5
1000 kΩ	0.1 kΩ	0.5% + 5	0.5% + 5	0.5% + 5
10 MΩ	0.001 MΩ	2.0% + 8	2.0% + 8	5.0% + 8

Accuracy for the ranges 1 R ~ 100 R is specified after subtract of the offset resistance.

Capacitance

Range	Resolution	100 Hz	120 Hz	1 kHz	10 kHz
1000 µF	0.1 µF	0.5% + 10	0.5% + 10	NA	NA
100 µF	0.01 µF	0.3% +5	0.3% + 5	NA	NA
10 µF	0.001 µF	0.3% +5	0.3% + 5	0.3% + 5	0.5% + 5
1 µF	0.1 nF	0.3% +5	0.3% + 5	0.2% + 5	0.2% + 3
100 nF	0.01 nF	NA	NA	0.2% + 3	0.5% + 3
10 nF	0.001 nF	NA	NA	0.2% + 3	0.5% + 3
1000 pF	0.1 pF	NA	NA	0.5% + 5	0.5% + 3
100 pF	0.01 pF	NA	NA	0.5% + 10	0.8% + 20
10 pF	0.001 pF	NA	NA	NA	1.0% + 50

Accuracy for the ranges of 10 pF~1000 pF is specified after subtract of stray capacitances for test leads.

Inductance

Range	Resolution	100 Hz	1 kHz	10 kHz
10 µH	0.001 µH	NA	NA	1.0% + 5
100 µH	0.01µH	NA	1.0% + 5	0.7% + 3
1 mH	0.1 µH	0.7% + 10	0.5% + 3	0.5% + 3
10 mH	0.001 mH	0.5% + 3	0.2% + 3	0.5% + 3
100 mH	0.01 mH	0.5% + 3	0.2% + 3	NA
1 H	0.1 mH	0.2% + 3	NA	NA

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ADVANCE DEVICES CANADA

Certificate of Authorization

This is to certify that:

Inde Enterprises
745, Sector- 8B
Chandigarh 160 009
Email:info@indeonline.in
Phone: 0172-4614415
Mobile: 09316134502

- has been appointed since 2005 as an authorized distributor of Smart Tweezers™ line of products and a service partner.
- has been granted the rights to purchase, promote and resell our products such as Smart Tweezers™ line and related accessories in the territory of India.
- has been authorized by us to provide maintenance and service facilities for Smart Tweezers™ under warranty and at post warranty period, including Calibration Services to our customers in India.

This Certificate of Authorization has been executed this 16th day of November 2020.

This certificate is valid for 3 years from the date of issue.

Ilia Malamoud, VP Sales
Advance Devices, Inc.

Advance Devices, Inc.
RPO Harding, PO Box 32043 Richmond Hill, ON L4C9S3 Canada
Phone: +1 (800) 453-5315 Fax: +1 (416) 352-5400

CERTIFICATE OF CALIBRATION

Calibrated for: Advance Devices, Inc.
Serial Number: 21155
Temperature: 23±2C
Model: ST-5S
Certificate Date: 5/31/2015 9:10:23 PM
This certified that above product was calibrated using applicable procedure.
As received condition: Factory tested
As shipped condition: At the completion of calibration this product meets published specification
Special Requirements: Re-certification of calibration will be performed upon request
Calibration Equipment Used: Smart Tweezers ST5S Calibration Module LVC139-CAL (Certificate of calibration #138455 by Navair Technologies, Inc.)

Certificate No: 16468
Software Version: R.1.04
Relative Humidity: 50±20%
Procedure Used: 4/6RESS.07

Accuracy Specification

Parameter	Measurement Range	Basic Measurement Accuracy*
Resistance	100 Ω to 10 kΩ	Better than 0.2%
	0.1 Ω to 9.9 MΩ	Better than 0.7%
Capacitance	10 nF to 100 µF	Better than 0.5%
	100 pF to 1000 µF	Better than 2.0%
Inductance	1 µH to 1 H	Better than 0.5%
	1.0 µH to 999 mH	Better than 1.0%

Maximum measurement ranges

Resistance R:	0.05 Ω to 9.9 MΩ	Capacitance C:	0.5 pF to 9999 µF
Inductance L:	0.5 µH to 999 mH	Quality factor Q:	0.001 to 1000
Dissipation factor D:	0.001 to 1000		

Maximum resolution Capacitance: 0.1 pF Inductance: 0.1 µH
Resistance: 10 mΩ *Capacitance at optimum test frequencies ranges. DUT value, without offset.*
**with 4-wire bench calibration*
2-wire measurements may introduce precision uncertainty up to 0.1%

Parameter	Measurement Range	Test frequency
Resistance	0.05 Ω to 9.9 MΩ	1 kHz
Capacitance	0.5 pF to 999 pF	10 kHz
	100 pF to 1 µF	1 kHz
	> 1 µF	100 Hz
Inductance	0.5 µH to 999 µH	10 kHz
	1 mH to 999 mH	1 kHz
	> 100mH	100 Hz

Typical offset: Capacitance: 0.35 pF Inductance: 0.1 µH
Resistance: 25 mΩ
Offset value should be subtracted from measurement result for small values (R < 10Ω, C < 100 pF, L < 10 µH)

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