

### Product Information

Scientric introduces the world's first compact supercapacitor tester. This rugged bench top unit now makes it easy to measure capacitance over an incredible range from a few millifarads to over a few thousand farads. Also, equivalent series resistances is measured with a push of a button. Values are accurate down to a few milliohms. No scopes, no separate power supplies, no fixturing, no setup, and no computational analysis are needed. Everything you need is provided in this unit. Operation is made simple with two pushbuttons along with a large, easy-to-read display which prompts the user. Voltage information is continuously displayed during a measurement providing feedback to the user. All of these features make the HiCap™ tester an ideal choice when fast, easy, and accurate measurements are needed. The HiCap™ tester is a cost-effective choice for production, engineering, quality, and R and D applications.

Partial list of features:

- Measures both constant current charge and discharge capacitance values
- Capacitance can be measured either in FULL mode or FAST mode
- Measures equivalent series resistance (ESR) using the "DC resistance" method
- Three selectable constant currents
- Selectable working voltages include 2.5 V and 5.0 V
- Measures capacitance from 0.005 F to over 9999 F
- Measures ESR from 1 milliohm to 10 ohms
- Voltage is displayed during measurement cycles



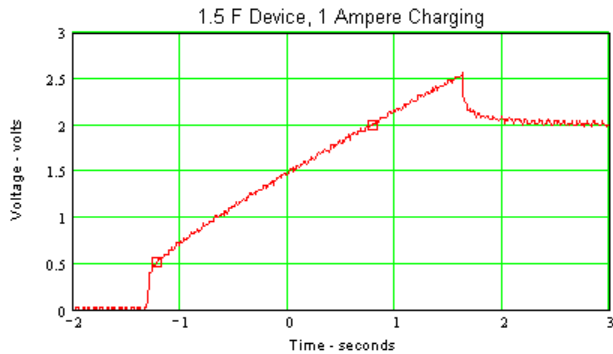
- Built-in Kelvin test socket for 1.0 and 0.1 ampere currents
- Terminal block with sense terminals for 10 ampere test
- Internal voltage reference and crystal time base
- Large character LCD display
- Easy to use. Display prompts the user
- Pushbutton operation
- Operates from the AC line
- Rugged aluminum chassis with forced air cooling

Chassis is 3.5" H x 8.5" W x 10" D, 5.6 lbs.

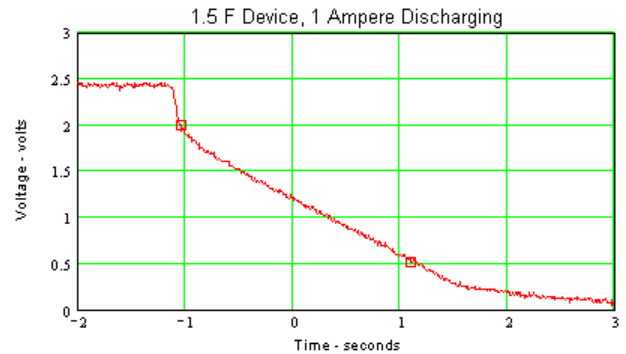
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Measurement  
Solutions**

## Measurement Theory



Capacitance determined by time between indicated voltage points.  
Value measured: 1.25 F



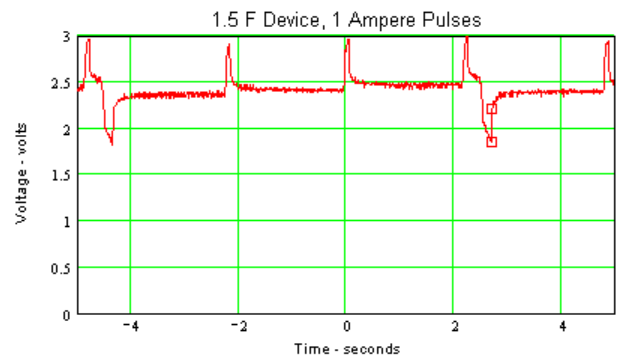
Capacitance determined by time between indicated voltage points.  
Value measured: 1.36 F

In FULL mode the HiCap™ bench top tester determines capacitance by measuring the charge or discharge time between the IEC-recommended voltage points of 20 percent and 80 percent of working voltage.

After a charging measurement completes the HiCap™ bench top tester continues to charge the device under test to the working voltage by providing short constant current pulses as needed to reach and maintain the working voltage.

During this interval the unit measures ESR by recording the instantaneous voltage recovery step after a short, constant current discharge pulse.

The user initiates the ESR measurement. The user can also initiate a discharge capacitance measurement cycle at any time after a charging measurement cycle and does not need to wait for full charging to the working voltage.



Charging pulses until working voltage acquisition, then discharge pulse to measure ESR (indicated voltage rise is ESR voltage).  
Value measured: 360 milliohms

In FAST mode the unit makes a capacitance measurement by charging or discharging the device over a voltage range of ten percent of the FULL mode range. Charging or discharging is automatically determined by the tester depending upon the initial state of charge of the device. ESR is automatically measured and reported.

The HiCap™ supercapacitor tester is the first product of its kind that integrates everything needed into a single, easy-to-use, bench top unit that measures these important, fundamental parameters of supercapacitors. It is a suitable and cost-effective addition to research, engineering, and production environments.

# Scientric

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