HIOKI

DC HIPOT TESTER ST5680

NEW Preview

Special website

Bring additional inspection performance to safety testing. Accelerate battery quality improvements with waveform analysis.

Product concept

Growing adoption of electric vehicles (EVs) and self-driving technology has led an increasing demand for high reliability and quality in automotive components.
Degradation of EV batteries and related issues can lead to serious accidents, including fire.
Consequently, safety and quality control are becoming even more important than in the past.

Market requirements

Safety : Manufacturers need to shorten testing times to improve productivity.

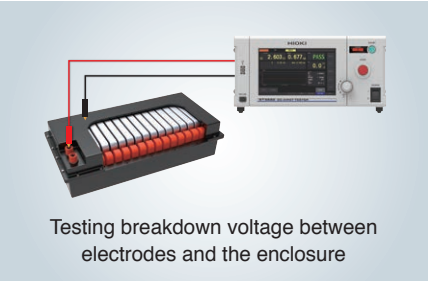
Quality control : Manufacturers need to improve test quality by managing test results as waveform data.

The ST5680 is a DC withstanding voltage insulation tester that was developed to meet these battery market requirements.

NEW PRODUCTS 2022 Tentative launch date COMING SOON

CE 3 year Warranty

ST5680 applications

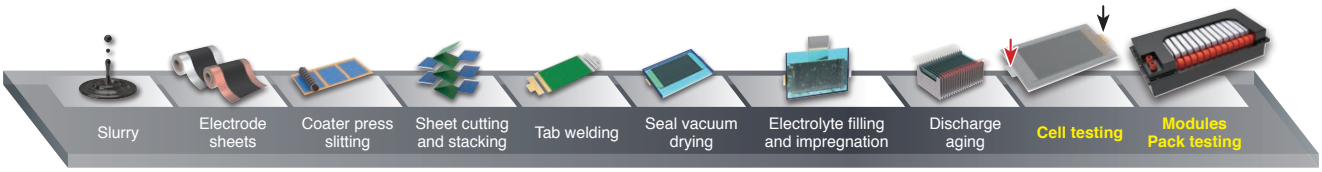


Testing breakdown voltage between electrodes and the enclosure

Breakdown voltage testing in battery production processes

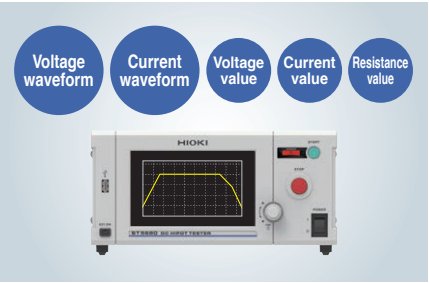
Testing breakdown voltages between electrodes and enclosures in module, pack, and cell processes

The ST5680 tests whether circuits are securely insulated by applying a high voltage.
The instrument assesses insulation performance by applying a DC voltage between test locations and measuring the resulting leakage current.
As an example, the instrument can be used in breakdown voltage testing between electrodes in battery modules, packs, and cells and battery enclosures on lithium-ion battery (LiB) production lines.



LIB production line processes

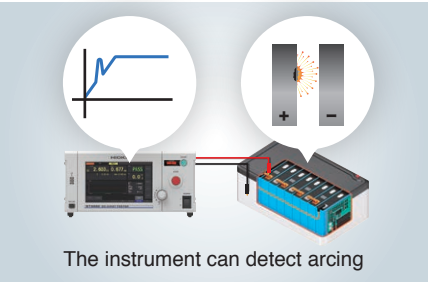
ST5680 benefits



Analyzing defects with waveforms and providing feedback to production lines

Displaying and recording test results as waveforms and values

The ST5680 can display and record applied voltages and leakage current test results as waveforms. The ability to review waveform status in addition to measured values makes it easier to identify the causes of defects. Productivity can be increased by promptly improving production processes where defects occur.
The instrument also provides capabilities that can help reduce process technicians' workload, including function to check the status of command transmission and reception when the instrument is embedded in a larger system and contact check functionality that allows the instrument determine whether proper contact has been established with the circuit under test.

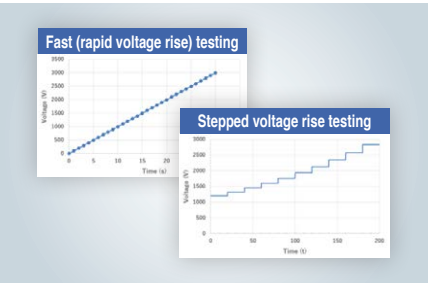


The instrument can detect arcing

Generating judgments based on precision testing of insulation and minuscule-current measurement

Arc detection function and maximum resolution of 0.01 µA

Arc discharge can occur during breakdown voltage testing if there is minuscule contamination or burring between test locations. If such discharges cause even a slight damage to the insulation, it can lead to long-term reliability of the product in question. Since arc discharges are not reproducible, the only way to identify them is to detect them reliably during each test iteration.
The ST5680 can accurately detect arcing and minuscule leakage currents which enables arc detection function and its maximum resolution of 0.01 µA. As a result, the instrument can help manufacturers produce higher-quality batteries.



Compliance with safety standard testing due to exceptional power supply performance

Maximum output of 100 mA and break down voltage (BDV) function

The ST5680 incorporates a power supply that can perform DC breakdown voltage testing required by various safety standards. The instrument is also capable of stable testing of circuits with stray capacitance and capacitance.
In addition, its BDV function can check the insulation breakdown voltage of the circuit under test. It can increase the applied voltage at a set speed and check the voltage that leads to insulation breakdown. The instrument can apply voltages using standard-defined testing methods, including fast (rapid voltage rise) testing and 20-second step voltage rise testing.

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