# TOS8850A

## AUTOMATIC WITHSTANDING VOLTAGE AND INSULATION RESISTANCE TESTER


**Withstanding Voltage Tester: AC 5 kV/100 mA**
**Transformer capacity: 500 VA**
**Insulation Resistance Tester: 1 to 1000 MΩ (500V DC)/2 to 2000 MΩ (1000V DC)**
**Automatic W→I/I→W**

## Outline

The Model TOS8850A is an automatic tester equipped with a withstanding voltage tester and insulation resistance tester that is able to perform withstanding voltage testing and insulation resistance testing continuously. (Available settings include AUTO W→I, AUTO I→W, MANU. W and MANU. I.)
The withstanding voltage tester section has a maximum output of 5 kV and maximum capacity of 500 VA (AC use only). Withstanding voltage tests can be performed on electronic equipment and electronic components.
In addition, the insulation resistance tester section is equipped with two measuring ranges of 500V/1000 MΩ and 1000V/2000 MΩ.
Functions include Pass/fail judgement, output of judgement result and status signal and remote control. The Pass/fail judgement function employs a window comparator type that can be used to detect test lead disconnections and defective connections in both withstanding voltage and insulation resistance tests. In addition, the use of judgement result and status signal output along with the remote control function result in a significant improvement in testing automation and efficiency.

## Features

- Processing of withstanding voltage tests and insulation resistance tests in a single process.
- Pass/fail judgement employs a window comparator type in both withstanding voltage and insulation resistance testing.
- Remote control functions for test and reset operations promotes automation and improved efficiency of testing.
- Signal outputs consist of a TEST ON signal, GOOD signal, NG warnings for withstanding voltage and insulation resistance tests, and a READY signal.
- Equipped with a zero turn-on switch.

 

# AUTOMATIC WITHSTANDING VOLTAGE AND INSULATION RESISTANCE TESTER

## Specifications

■ Withstanding Voltage Tester Section

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| ❑ Test Voltage | AC |
| Applied Voltage | 0 to 2.5 kV/ 0 to 5 kV |
| Wattage Rating | 500 VA (5 kV, 100 mA) |
| Waveform | Commercial line waveform |
| Voltage Regulation | Better than 20% (at line voltage of 100 V, for maximum rated load to no load) |
| Switching | Use of zero turn-on switch |
| ❑ Output Voltmeter | |
| Type of Meter | JIS Class 1 |
| Scale | 2.5 kV/5 kV full scale |
| Accuracy | ±3% of full scale |
| Indication | Mean-value response, effective-value scale graduation |
| ❑ Results judgement | |
| (interruption of output following detection of leakage current) | |
| Type of Judgement | Window comparator type |
| Current Values | 0.5/1/2/4/8/10/100 mA |
| (Upper Cutoff Current) | (Can be set in 0.5 mA order from 0.5 to 25.5 mA by combining the above) |
| Lower Cutoff Current Setting Range | 0 to 1/2 of upper cutoff current (continuous) |
| Judgement Accuracy | ±(5% of upper cutoff current (set value)) |
| Detection | Integration of absolute value of current followed by comparison with reference value |
| Calibration | With rms value of sine wave using a pure resistance load |
| ❑ Timer Settings | 0.2 to 10 minutes (4 ranges) (operation can be switched between manual timing and use of timer) |
| ❑ Leakage Current Monitoring Terminal | Current flowing to the sample can be monitored by connecting an ammeter. |

■ Insulation Resistance Tester Section

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| ❑ Measuring Voltage | 500V DC, 1 to 1000 MΩ (central scale graduation: 20 MΩ)<br>1000V DC, 2 to 2000 MΩ (central scale graduation: 50 MΩ) |
| ❑ Measuring Accuracy | 1st effective measuring range: ±5% of reading<br>2nd effective measuring range: ±10% of reading |
| ❑ Measuring Voltage Precision | +5%,-0% of rated voltage when output terminals are open |
| Timer Settings | 0.5 to 10 minutes (4 ranges) (operation can be switched between manual timing and use of timer) |
| ❑ Result judgement | (Pass/fail judgement) |
| Type of Judgement | Window comparator type |
| Limit Value Setting Range | Arbitrarily set within effective measuring range |
| Judgement Accuracy | 1st effective measuring range: ±10% of reading<br>2nd effective measuring range: ±15% of reading |
| Judgement Waiting-Time | Approx. 0.3 seconds |

■ Overall Specifications

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| ❑ Testing Methods | Automated testing and independent testing |
| ❑ Signal Outputs | ● TEST ON Signal<br>Make contact signal and lamp<br>● GOOD Signal<br>(duration: approx. 50 ms)<br>Make contact signal, lamp and buzzer<br>● W/NG Warning<br>Make contact signal, lamp and buzzer<br>● I/NG Warning<br>Make contact signal, lamp and buzzer<br>● READY Signal<br>Make contact signal<br>Note: Contact rating of contact signal is 100V AC 1A, 30V DC 1A |
| ❑ Test Modes | Double action, good hold, momentary, NG alarm |
| ❑ Remote Control | Test and reset operations can be remote controlled in the following cases:<br>● When using a separately sold remote control box<br>● When using a separately sold test probe<br>● When controlling with a make contact signal such as an external relay<br>● When using low active control by a logic device and so on Input conditions of the TOS8850A are as follows:<br>● High level input voltage: 11 to 15 V<br>● Low level input voltage: 0 to 4 V<br>● Low level sweepout current: Max. 2 mA<br>Note: Since an internal gate is pulled up to a +15V power supply by a resistor, input becomes equal to high level input if the input terminal is open. |
| ❑ Line Voltage | 100V±10%, 50/60 Hz (∗1) |
| ❑ Power Consumption | Max. 15 VA under no-load conditions (reset state)<br>Approx. 600 VA at rated load (5 kV,100 mA) |
| ❑ Dimensions (MAX) | 430W × 199H × 370D mm<br>(430W × 214H × 435D mm) |
| ❑ Weight | Approx. 24 kg |
| ❑ Accessories | High-voltage test lead TL01-TOS: 1<br>5P DIN plug (assembled): 1 |
| ❑ Options | BH4M-TOS rack mount bracket for JIS<br>BH5-TOS rack mount bracket for EIA |

∗1:Nominal Voltages of 110V, 120V, 220V, 230V and 240V available as factory options.

 