



# WT-100

## Wind Tunnel

### WIND TUNNEL FOR SEMICONDUCTOR AND HEAT SINK FORCED CONVECTION (MOVING AIR) THERMAL MEASUREMENTS

#### DESCRIPTION

The WT-100 Wind Tunnel is specifically designed for characterizing semiconductor devices and heat sinks in moving air environments. This unit will allow users to determine the thermal resistance ( $\theta_{JMA}$ ) chip/package and package/heat sink combinations. The WT-100 meets the requirements of EIA/JEDEC JESD51-6 (Integrated Circuit Thermal Test Method Environmental Conditions - Forced Convection (Moving Air)).

The air velocity is variable from 0.5 m/s (100 lf/m) to 5 m/s (1,000 lf/m) by adjustment of push button-controlled exhaust vanes, allowing the fans to run at constant speed for greater efficiency, lower noise and better air flow characteristics. The test section, 20.3 cm (8") long with an 20.3 X 20.3 cm (8" X 8") cross-section, has removable opposite side panels to allow for user development of specialized device or printed circuit board mounting arrangements. The unit comes with a blank Test Section Plate for this purpose. A Test Section Plate setup for accepting the JESD51 Thermal Test Boards is optionally available.

The Wind Tunnel is an open-loop design and stands vertically to minimize laboratory floor space, requiring roughly 0.92 X 1.23 m (36" X 48") for operation (including clearance around the air input). Two sets of side wall holes before the test section allow for anemometer mapping of the air flow across the test section in both the X and Y planes. In accordance with JESD51-6, a Type-T thermocouple is mounted on the test section side wall at the center of the test section length. The air exhaust is near the top of the 2.5 meter unit. A hot-wire anemometer, capable of digitally displaying air velocity from 0 to 1,000 lf/m, is integrated into the Wind Tunnel system.



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Specifications subject to change without notice.

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## FEATURES

- **Vertical design minimizes lab floor space**
- **Wide air velocity dynamic range enables full thermal characterization**
- **Large cross-section accommodates wide range of test specimens**
- **Quiet operation keeps lab noise down**
- **Digital display for air velocity provide accurate setting capability**
- **Push button control of air velocity simplifies wind tunnel setup**
- **Meets requirements of JESD51-6 standard to insure credible data measurements**

## SPECIFICATIONS

<b>Air Velocity Range</b>	<b>0.5 to 5 m/s (100 to 1,000 lfm)</b>
<b>Test Section Dimensions</b>	<b>20.3 X 20.3 cm cross-section, 20.3 cm long (8 X 8 inch cross-section, 8 inch long)</b>
<b>Velocity Uniformity in Test Section</b>	<b>±5% of setting within 2 cm of each wall</b>
<b>Velocity Setting</b>	<b>Push button control</b>
<b>Floor Space required</b>	<b>0.92 m X 0.62 m (3 X 2 feet) for unit 1.23 m X 0.92 m (4 X 3 feet) for air clearance</b>
<b>Height</b>	<b>2.2 m (7 feet)</b>
<b>Power requirements</b>	<b>120 VAC 50/60 Hz, 7 A</b>

## ORDERING INFORMATION

<b>Model Number</b>	<b>Description</b>
<b>WT-100</b>	<b>Base Unit with blank Test Section Plate</b>
<b>WT-100-01</b>	<b>Test Section Plate (Blank)</b> For customer designed and fabricated specimen mounting
<b>WT-100-02</b>	<b>Test Section Plate (JESD51 Thermal Test Board Setup)</b> Provides standoff and mating edge-card connector for standard test boards
<b>WT-100-09</b>	<b>220 VAC 50/60 Hz Power Option</b>