

Rack Style Burn-In Oven

A cost effective, economical, small footprint chamber designed specifically for semiconductor burn-in with temperatures up to +175C (Opt. 260C)



ONEBOX is manufactured for semiconductor burn-in applications.

These applications include high dissipation forward bias, high-temperature reverse bias, dynamic or static burn-in of semiconductor devices.

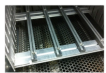
The ONEBOX oven is designed specifically for small lot device burn-in and reliability applications. This version, the HT, is for high temperature applications to +260C.

The semiconductor industry has changed drastically over the past decade and this oven represents the first new tool designed for the realities of today's manufacturers. It offers a cost effective alternative, providing economical day-to-day operational impact with a minimal floor space requirement to meet the needs to today's factory.

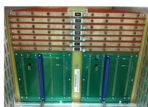
The oven is an ideal fit for qualification testing, preproduction burn-in needs and new product introduction teams apps.



Burn-in board flexibility - the ONEBOX oven chamber is designed for flexibility. when ordered, the configuration of the oven will be defined for a specific BIB profile. This allows the integrator to provide a compatible BIB card rack for the specific profile and drivers (if required). The oven designers have provided features for many of the industry standard BIB profiles and drivers.



Rear wall design - the rear wall of the chamber is designed for flexibility as well. It features a cool wall design, allowing for the use of DC power buss bars, feed-thru cards, or mother boards for BI board interconnect into the oven chamber.



Driver card rack - the design of the rear wall allows for integration of an external driver rack on the rear of the chamber. It can accommodate standard and custom drivers.



Oven over-temperature protection - every oven includes redundant over-temperature circuits. Two over-temperature protection circuits monitor chamber temperatures. If the set point is exceeded, or if the oven exceeds the maximum for the unit, the circuits shut down the heaters and executes a system fault for protection.



Simple controls - controls are easy to use for both simple or complex operations. The operator interface is very straight-forward.



Alarms - Oven faults result in visual and audible alarms.



Airflow recirculation - the oven is designed around an aircraft style impeller to maintain uniform temperatures and provide high speed air flow. Airflow meets MIL STD 883. The oven uses proportional damper control to remove heat generated by the load.

Oven electronics and controls - the oven utilizes a PLC for operation and control. All oven faults and process steps are managed by the PLC. Options allow for external computer control to local PC's or networks.

Proportional dampers - dampers are used to provide for automatic exhaust from and fresh air intake to the chamber to aid in the management of temperature set points.

The ONEBOX oven was designed by veteran burn-in and test engineers with years of industry experience for maximum flexibility and cost effective operation.

Optional circuits - Single and multiple temperature operation can be started with a single press of a button. Optional temperature profiles are controlled with up to 4 programs with ramp and soak segments defined in each.

Application purpose - the ONEBOX is designed as a small footprint, flexible system for burn-in and device qualifications.

Footprint friendly - it features a unique cabinet and chamber design. It provides users extreme flexibility in locating the ovens in area where valuable factory floor space is at a premium. The oven is designed to maximize throughput while conserving space and reducing utility costs.

Flexible oven architecture - the oven was designed to maximize the qualification process while reducing the cost impact on the user. Ovens are designed for individual use or in combination. Ovens may be placed in a 'freight-train' configuration with multiple chambers operating at different temperatures independently.

Vertical airflow - the oven features industry standard vertical BIB loading.

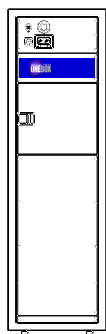
Maintenance - Recent advances in materials and electronics have been combined to ensure the ONEBOX will require minimal maintenance. Cabinet features, such as lift off side panels, allow for quick access to all service points. Most major components and the PLC electronics are located for easy access.

ONEBOX HT FEATURES AT A GLANCE

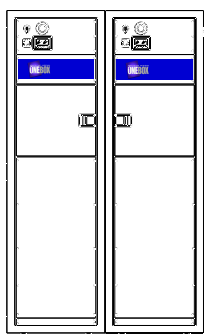
| | |
|-------------------------|-----------------------|
| Temperature range: | Ambient +20 to +260C |
| Temperature control: | Digital proportional |
| Temperature mgmt: | Zero switching |
| | SSR control |
| | Automatic dampers |
| Temperature uniformity: | +/-3C active load |
| Maximum dissipation: | 4KW |
| Recirculation: | 1000 FPM |
| Failsafe: | Break in thermocouple |
| | Exceeds preset limit |
| | Maximum set point |
| | Loss of airflow |
| | Access panels |
| Overall dimensions: | 24"W x 45"D x 78"H |

ONEBOX ovens are designed for many different applications and a wide variety of legacy hardware. Many options are available to meet individual customer requirements.

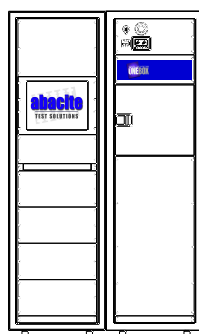
Configurations - ONEBOX ovens may be used individually or in groups. They may share resources as shown in the images below. Additional options may be needed. Consult your sales contact for additional information regarding each of these configurations.



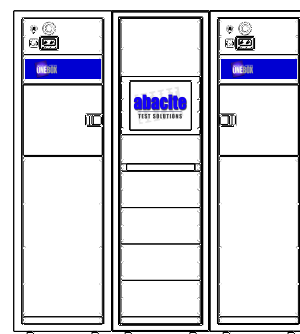
Single ONEBOX chamber in standalone configuration



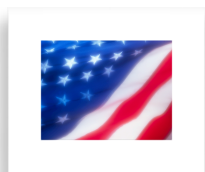
Dual ONEBOX chambers in standalone configuration



Single ONEBOX chamber configuration with computer controls and power supply rack



Dual ONEBOX chamber configuration with computer controls and power supply rack



Product manufacture - This product is designed and built in the USA, by Semiconductor Test Supply, an Indiana based equipment manufacturer. It contains materials and components from the USA



Contact STS for additional product information.

400 East Mahalasville Road
Martinsville, IN 46151

Phone: (317) 513-7393