

MICRO BURN IN PRODUCTS LISTED IN MODEL NUMBER ORDER FOLLOWED BY A BRIEF DESCRIPTION

<u>MODEL</u>	<u>DESCRIPTION</u>
102P	Floor Stand (Plane)
102R	Floor Stand (Modified)

Floor stands are used to support the test chamber. This provides several advantages. It elevates the system to a convenient working height. It provides a good place to mount power supplies and monitors etc. The plane version may be used as a storage area for test cards, etc. The modified version is provided with cooling fans.

HTRB Burn-In System (diode)

The 1024 HTRB burn-in system is used primarily for diodes. The load devices are fixed resistors soldered into the back of the system. The value of the resistors are customer specified and are not easily changed.

Component Burn-In

The 1025 systems are the forerunners of our 1027D systems. Systems are available for 8 test cards all the way to multiple chamber systems containing 86 test cards all the way to multiple chamber systems containing 86 test cards in each chamber. The standard test card plugs into a 210 pin connector and usually provides fixturing for 200 devices. The cards used in the 1025 systems are usually 10181 type cards. These systems are good for bulk quantity burn-in. The most commonly used load card in the Model 1025 provides an individual fuse position for each device under test.

1027D Component Burn-in

The 1027D system is highly versatile. Standard systems provide 20 test card positions. However, systems are available with up to 215 card positions. Depending on the product being tested, up to 80 devices may be fixtured on a device test card. Transistor test cards vary from 40 to 24 test positions. Many test cards are available for this system, from chip components to toroidal capacitors to hybrid circuits. A wide variety of options are available including scanners, pin matrix panels, floor stands, power supply monitors, special designed cards, etc. This is the major, general purpose, burn-in system in our product line.

1037A Integrated Circuit Burn-In

This is a new product, introduced in the summer of 1987. The Model 1037A is an out-growth of the 1027D. Much of the same methodology is used here. The major exception is in bias supply busing. The 1027D uses terminal boards and bus wire. The new system, the Model 1037A, uses a bus bar system mounted in the back of the load card enclosure. The load card plugs into two connectors. One is mounted to the bus bar. The other is a back-to-back connector assembly similar to those used in the 1027D.

Another major change in methodology is seen in the load card. At this time only one universal load card is available. This card provides power supply selection capabilities, power supply bias voltage monitoring (the monitor point is taken from the device card to assure the DUT's are getting voltage), a breadboard section so the customer may add an on-card clock circuit (or whatever), and an additional mox connector to allow importing of clock signals or additional voltages.

At present, the customer is using card programmable IC test card for fixturing his devices and programming

the test conditions to the DUT's. The Model 1037A is tremendously flexible and may well be used for other component testing besides integrated circuits.

Fixtured Door Measurement Systems

In fixtured door systems, all card support fixturing and connectors are mounted on the door of a small chamber. One chamber may be used with different doors, fixtured for specific types of tests or products. Fixtured door systems provide a very cost effective method of doing small quantity tests on a variety of products. The inside of each door is fixtured for a different type of product or with high-temperature connectors to accept standard burn-in boards. The outside surface of the door is normally equipped with connectors allowing the use of manual or automatic scanning systems. This approach makes temperature coefficient testing easy.

Model Description

Capacitor Measurement System (fixtured door)

The Model 2983 is a manually operated TC system. The system was designed for making accurate capacitance and temperature coefficient measurements on capacitors while they remain at temperature. The temperature range of the system is -55°C to 150°C. In addition to Cap and DF measurements, insulation resistance (Ir) measurements may also be made with good accuracy.

Diode Measurement System

This system is the same as the Model 2983 except this one is designed specifically for testing diodes.

Transistor Measurement System

This system is the same as the Model 2983 except this one is designed specifically for testing transistors.

2985-10G IC Measurement System

The Model 2985-10G is designed specifically for integrated circuit testing. The test devices are fixtured in test sockets. Custom test cards are available.

Go/No Go Ir Tester

The Model 3851 is an adjunct to the burn-in or life test environment designed to provide a fast test for leakage current. The operator sets the test voltage, bias soak time, and an acceptable maximum leakage current. At the end of the soak time, all devices are tested at the same time. Standard systems provide for local or remote testing. The number of test positions vary depending on the customer's requirements. The most common configurations range from 20 to 200 device test positions. Devices are tested while fixtured on burn-in cards.

Ambient Component Burn-In System

This is an ambient version of our 1027D test system. The system is configured as a 1027D, except no test chamber. To comply with military specifications on life test and burn-in, the device test cards are arranged in the system so that no moving air is directed on to the DUT's.

Roll-in Rack Capacitor Burn-In System

This system features a large roll-in rack. The rack is mounted to the door of the system. Test cards are installed into the rack, the rack rolled into the system, and then the door is clamped in place. The monitoring



circuits are also mounted in the door. This is a large capacity test system originally designed for bulk burn-in of capacitors. The system door is fixtured to accept up to 180 test cards of 100 test positions each.

TC & Ir Systems

The Model 4855 is an automatic temperature coefficient test and measurement system. There are two versions of this system available from MICRO BURN IN. The 4855-TC is designed to measure capacitance and dissipation factor. The 4855-Ir is designed to measure insulation resistance. Both systems are computer monitored and computer controlled. The systems take measurements through a series of pre-programmed temperatures ranging from -55°C to +150°C. The test chambers are electrically heated and gas cooled.

5201C Spike – Transient Memory Voltmeter

The Model 5201C Memory Voltmeter is an all solid-state, broadband instrument (DC to 20 MHz) with amplitude memory. It measures pulses as short as 50 nanoseconds, and stores peak voltages from 0 to 1,000 volts. Optional probes extend the range to 30 Kv, AC or DC.

5201CR Spike – Transient Memory Voltmeter

This instrument is the same as the 5201C, except that this instrument also has a strip chart recorder.

Peak Reading Memory Voltmeter

The Model 5203 Peak Reading Memory Voltmeter is an all solid state, broadband (DC to 20 MHz), digital voltmeter with amplitude memory. It measures pulses as short as 50 nanoseconds, and stores peak voltages from 0 to 1,000 volts. The Model 5203 may be used as a sample and hold meter, but does not require sync pulses, strobing, or sample and hold commands. Optional probes extend the range to 40 Kv, AC or DC.

5203-2A Model 5203 (with remote programming)

The Model 5203-2A is similar to the Model 5203 but has remote programming features to enhance its versatility in systems operation. Remotely controlled functions include range, mode, print command, and reset. In addition, it incorporates a choice of printer or other BCD outputs that are optional on the Model 5203.

Transient Millivoltmeter

The Model 5206 Transient Millivoltmeter is an all solid-state, digital voltmeter with amplitude memory. It measures pulses as short as 1 microsecond, and stores peak voltages from 0 to 10 millivolts. The Model 5206 may be used as a broadband RF-Digital Voltmeter, but does not require sync pulses, strobing, or sample and hold commands.

Battery Pak/Charger

This is a completely self-contained power pack containing four long lasting sealed batteries and a charging circuit. The unit will operate a Model 5201C for up to 24 hours depending on the charged condition of the batteries. This unit is often used as a back-up power source for the 5201. Another version of the Battery Pak/Charger, Model 5298-03, is designed to provide power to the digital memory voltmeters, Model 5203 and Model 5206.

Ambient Transistor (and diode) Burn-In System



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The Model 5445 is a highly specialized version of our general purpose ambient temperature Burn-In system. It is designed for either forward power or reverse voltage testing of transistors and diodes, including zener diodes. Both PNP and NPN transistors may be tested. The system has the capability of simultaneously testing 40 different transistor types.

Liquid Bath System

The Model 5216 is a general purpose liquid bath Burn-in system designed for forward power and reverse voltage testing of higher wattage devices. Standard systems safely handle approximately 5Kw at 100°C. The system features independently controlled test bays, providing the capability of performing different tests simultaneously. Device cards are available for a variety of product types. High wattage devices often must be tested in a liquid bath system to allow heat removal. As with all MICRO BURN IN systems, custom systems or test cards are available as required by the customer.

Zener Diode Burn-In System

The Model 5644 is a seven bay test system designed for the ambient burn-in of Zener diodes. Each system contains one power supply control console and six test bays. Each test bay provides fixturing for 20 device test cards. Two different types of programmable test cards are supplied with the system. A low voltage test card provides fixturing for 48 Zener diodes. A high voltage card provides fixturing for 32 Zener diodes. Programmable test cards are used to optimize testing by causing a selected number of Zener diodes to be placed in series. This innovation permits testing of a wide variety of Zener types with only two supplies.

Electromigration Test System

MICRO BURN IN developed the first commercially available electromigration test system. The system, Model 5631, is a computer controlled, 3 chamber, metal migration (electromigration) test system. The system is used to study the effects of current and temperature on the migration of metals in electronic components such as integrated circuits. Its primary function is to characterize the metal systems used as conductors in semiconductor devices.

Thermal Fatigue

The Model 5692 consists of independent thermal cycle test modules. The number of modules used is a matter of customer specifications. Each module is an independent test system, containing its own power source, control circuitry, and cooling system. Thermal fatigue is NOT the same as thermal shock. Thermal shock testing is usually done in a non-biased condition and is primarily used to test the device packaging. Thermal fatigue testing is done by power cycling in accordance with either time or temperature and is used to test the device structure. The heat applies is "self heat" generated by operating in the forward power mode. When the self heat reaches a predetermined temperature, the power is cycled "off," and the devices are quickly brought down to a preset lower temperature.

Board Level Burn-In System

The Model 6083 is a modular approach to board level burn-in. Each module is a removable fixtured drawer. Easy loading and unloading of Boards-For-Test is insured by simply removing the drawer. The drawers slide on rollers and are self-guiding into the system connector as they are installed. A replaceable mother card is used to interface the boards-for-test to the system. Converting for tests on a different type board is as simple as replacing the mother tray, or exchanging drawers. Power is supplied from bus bars, and is routed to the test system through a monitoring load card.

300°C IC Test System



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Customized test system providing an inert atmosphere at 300°C. The system features oxygen monitoring. The devices are fixtured on ceramic substrate device cards. Dip type socket fixturing is available for temperatures up to 300°C. Exterior connectors are provided to allow device scanning or voltage application.

Power Simulator

The 9100 Power simulators are used to perform a dynamic burn-in on high current rectifier diodes. Two standard models are available, the 9100-100 and the 9100-300. These units have 100 amps and 300 amps forward current capability. Both have a maximum reverse amps forward current capability. Both have a maximum reverse voltage of 1000 volts. The forward current and reverse voltage are independently adjustable. These units are needed when the forward current requirement is beyond the limit of our System 1000 family of dynamic rectifier diode burn-in systems.

9200A Power Supply Monitor and Interrupter System.

The Model 9200A is an accessory to all of our burn-in and life test systems. This unit is designed to monitor the output of the system bias supplies. Whenever the supply output voltage varies by more than 5%, up or down, the monitor initiates an alarm sequence that includes an audible alarm, a visual alarm, and a bias voltage interrupt (tighter tolerances than the standard 5% are available). After alarm, the system requires a manual reset by an operator; this makes sure the system will not come back up after a power failure or other fault. Start-up and shut-down sequencers are available as an option. The Model 9200A is built-in slide-in module form. An independent slide-in module for each monitored supply.

- 1010-3-12 System 1000, 100 position, dynamic diode burn-in
- 1060-3-10 System 1000, 600 position, dynamic diode burn-in
- 1120-3-10 System 1000, 1200 position, dynamic diode burn-in

These are the three basic model numbers for our System 1000 Dynamic Diode Burn-in Systems. Many other designations are possible. The circuitry in this system is patented. The 1010 is the 100 position system described in the "On Fire" brochure. This system features five independent test lots making it ideal for small lot testing such as engineering evaluation. The 1060 system provides 600 test positions, and the 1120 provides 1200 test positions. The -3- signifies 3 amp forward current (many current ranges are available). Add two "0's" to the last number to get the reverse voltage capability. All system 1000 models feature independently adjustable forward current and reverse voltage with a forward conduction angle of at least 175°C throughout the entire adjustable range.

