DATA SHEET

In-Circuit Test System

i1000 Keysight FlexiCore

Overview

In today's manufacturing floor, the trend of maximizing cost-of-test and throughput is ever more challenging. Electronic manufacturing service (EMS) providers that used to produce computing boards, are now manufacturing communication boards, and are quickly moving into automotive markets today, with a medium to high mix of board variants. This could mean more changeovers for a single board test, reducing throughput.

Hence, we see an increasing trend of multiplying panels on a single board, be it multiples of the same design (homogenous), or multiple unique designs (heterogenous) onto a board, this helps to save cost and minimize cycle time. When it comes to testing, especially for a heterogenous board, things could become complicated.

Taking this to another level, let us add functional test in combination with all the above stated features, we now have a complicated system design, requiring a solution that is flexible, that best meets the production line requirements. It might not seem an apparent need today in your production line, but it might, soon.

i1000 Keysight FlexiCore In-Circuit Test

The i1000 Keysight FlexiCore In-Circuit Test (ICT) system is another step forward for the i1000 ICT family of products from Keysight that provides best-in-class price-performance for today's printed circuit board assembly (PCBA) manufacturing needs. Understanding the new challenges ahead, Keysight has made improvements to give users the option of changing the way i1000 systems are being used, to suit production line needs.

Parallel Testing of Multi Panel Boards

Addressing the increasing trend of using panelized boards in manufacturing is just one of the new features in the new i1000 Keysight FlexiCore In-Circuit Test system. Using panelized boards help customers address a higher product mix, minimizing change overs in manufacturing, increasing throughput. With the new enhanced software, the new Keysight FlexiCore feature allows easy configuration to test 2, 3 or 4, multi-panel board, giving flexibility in managing manufacturing capacity. With an increase board space, the maximum nodes tested increases from 1,664 nodes previously to 2,560 nodes, complementing larger panelized boards.

KEYSIGHT TECHNOLOGIES

Functional Test, Flashing, LED Checks – Combine it All

Physically, the system depth has been increased by 200mm from the previous generation in-line system, giving additional space in 3 areas to expand testing capabilities.

- From the top, standard 19” EIA equipment can be easily mounted vertically, with up to 4RU of space.
- In the middle, behind the fixture workspace, measuring 320 mm (D) x 700 mm (W) x 500 mm (H), space to mount flash programmers, or LED verification modules, making them close to the fixture.
- At the bottom, already present, behind the ICT hardware, a space of 10 RU, to mount PXI based hardware, like the Keysight M9018B PXIe Chassis and all the available modules, or the 34980A Multifunction Switch/Measure Unit

And if the ICT capabilities are not required, the ICT hardware can be removed, the space re-purposed with additional functional test hardware, converting the system into an automated in-line functional test platform.

Figure 1: System bottom, 10 RU space for additional hardware

Device Under Test Specification

Key Specifications	Options
Maximum PCB Size	480 mm (L) x 320 mm (W)
Minimum PCB size	50 mm x 50 mm
Bottom side clearance height	40 mm
Top side clearance height	150 mm
PCB shape	Square or rectangle recommended
Deviation	1 mm (maximum)
PCB weight	3 kg (maximum)
PCB margin for conveyor	3 mm
PCB alignment	Fixed by 2-4 guide pins
Maximum test points	2,560
Maximum Cores	4 (640 nodes per core)
Core Merge	Yes (1 / 2 / 3)

Mechanical and Environmental Specifications

Key Specifications	Options
Dimension	850 mm (W) x 1100 mm (D) x 1,900 mm (H) With signal tower lights: 2,200 mm (H)
Conveying direction	Left to Left / Left to Right / Right to Left / Right to Right
Conveyor belt width	3.0 mm
Conveyor Height	895 mm ~ 995 mm
Conveyor Speed	300 mm/sec ~ 500 mm/sec
PCB Exchange time	6 seconds
Board markers	Up to 7
Fixture lock mechanism	Automatic engagement
Power	200 V - 240 V AC
Power frequency	50 Hz / 60 Hz
Air pressure	6kN ~ 8kN, (6kg/cm2 ~ 8kg/cm2)
Working temperature	5 to 45 °C
Working humidity	20 to 80%

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

KEYSIGHT TECHNOLOGIES