Multi-Core Model

ICT

IN-CIRCUIT TESTER with FUNCTIONAL TEST

TR5001 SII SERIES

- High Accuracy, Reliability and Testing Speed Modular ICT+FCT
- Built-In Self-Diagnostics and Auto-Calibration Function
- Non-Multiplexing 1:1 Per Pin Architecture

Ease of Use

Up to 4096 Testing Points

Quick Disconnection Interface

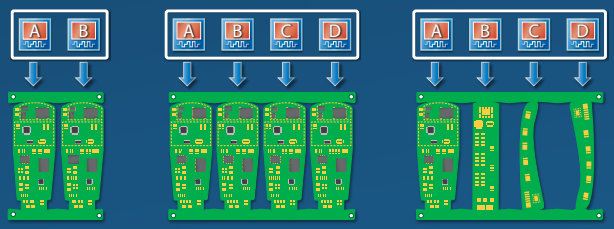
TRI innovation

TR5001 SII SERIE

Multi-Core Parallel Testing Design

The TR5001 SII series in-circuit testers support up to four independent tests cores for high-throughput parallel testing. The innovative ICT series is a SMEMA-compatible flexible platform with inline and offline capabilities. The system ease of maintenance and long-term testing reliability is possible due to built-in auto-calibration and self-diagnostics.

Multi-core Testing for Increased Production Throughput



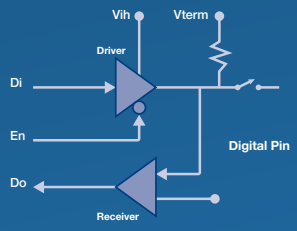
Dual-core ICT | Quad-core ICT | Multi-program ICT

Functional Tests

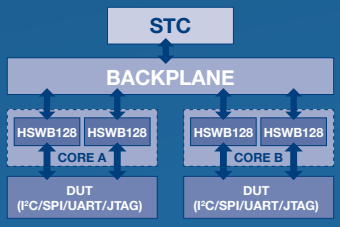
- On-Board Programming
- Boundary Scan
- LED Analyzer
- V/I Measurements
- CAN/LIN Bus Tests
- Frequency Counter
- MCU programming

Multiple Serial Bus Access

The TR5001 SII testers feature a serial test controller, which offers two high-speed serial ports per tester core, for a maximum of 8 individual ports. Each of these serial ports can be mapped to any test pin on the switching board and deliver a variety of serial bus protocols to the DUT.



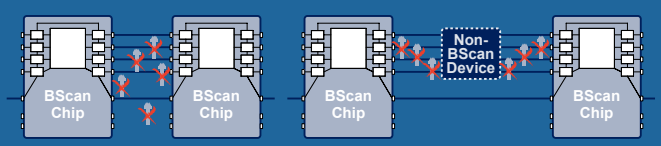
1:1 Per-pin Driver & Receiver



Up to 8 Serial Ports can be Mapped to any Pin

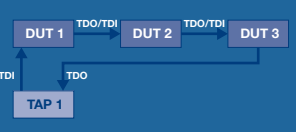
Boundary Scan Test

Virtual nails tests for RAM, ROM, TTL and TREE devices, and IEEE1149.6 Test.

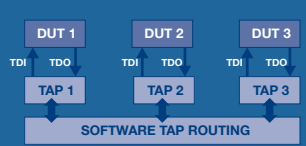


Boundary Scan Virtual Chain Test

Simplify chained DUT testing using software TAP routing in TRI virtual chain BScan Test. Reduce fixture wiring and test program complexity.



Standard Chain Routing



Virtual Chain Test

ES

LED Analyzer

TRI's ICT LED analyzer can simultaneously test up to 1080 LED channels for color and brightness (up to 800 lumens). TRI's LED analyzer solution is a perfect fit for the test of automotive lights, LCD backlights, and indicator LEDs.

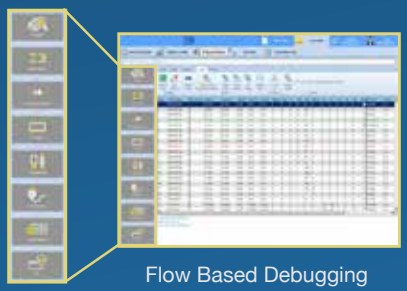
Automotive ECU Test

The TR5001 SII series can test modern vehicles Electronic control units (ECU), such as the Multi-Display In-Vehicle Infotainment (IVI) System, through CAN-LIN bus tests.

CAN/LIN bus application: steering wheel, sensors, fan motors, air conditioner, door controllers, seat motors, headlights, and more.

Easy Debugging

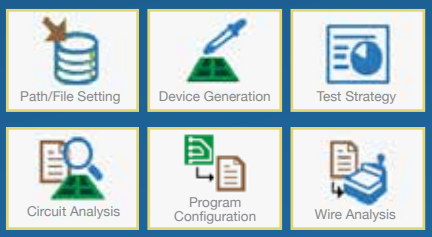
The innovative test program debugging interface supports flowchart-based test program debugging of individual or parallel test programs. With TR5001 SII series multiple cores, it is possible to debug panel boards or individual boards.



Flow Based Debugging

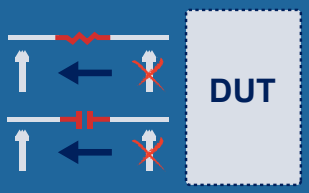
Intelligent Software Interface

The TR5001 SII Series features an intuitive software interface designed for easy operation and programming. Enhanced features include Automated Test Program Generator, Auto-tuning, and setting templates.



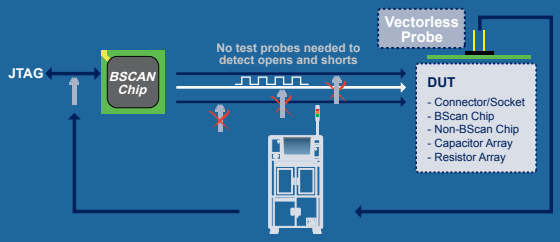
Drive Through Test

Significantly reduces test probes for passive analog components connected in series with JTAG and BScan capable devices and connectors.



TRI ToggleScan Test

A Powerful vectorless test technology that significantly reduces the number of test probes, ToggleScan utilizes BScan and vectorless probes to test non-BScan devices.



TRI's ToggleScan Test

Smart Factory

Integrated data exchange solution that allows performance analysis of production line data for quality assurance and engineering analysis. TRI's solutions enable operators to simplify production quality monitoring, analyze statistical production line defect rates, and identify component defect trends and production issues.

Solder Printer — SPI
Pick & Place
Pre-reflow — AOI
Reflow Oven
Post-reflow — AOI
Insertion & Wave Soldering
AXI
ICT

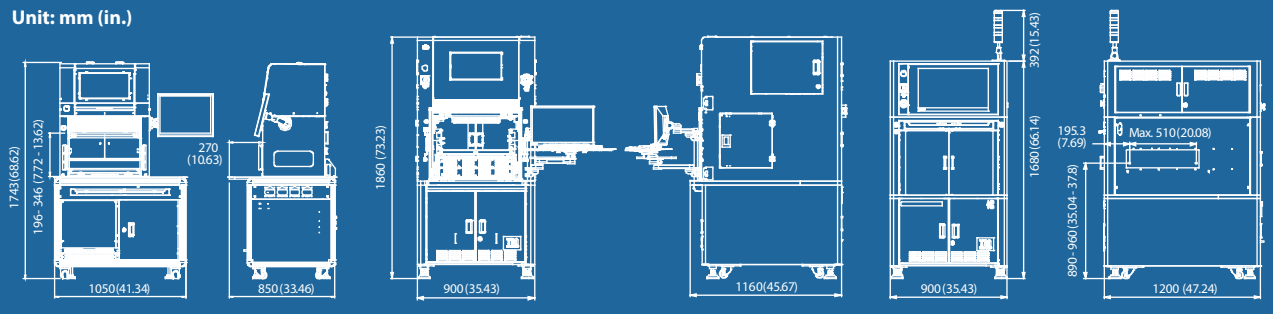
IPC CFX QPL LISTED

Specifications — TR5001 SII SERIES

Model		TR5001 SII INLINE / TR5001 SII QDI / TR5001 SII		
General	No. of Cores	1	2	4
	Max. Test Points	3,456 Points (Optional: 4,480)	3,328 Points (Optional: 4,096)	4,096 Points
	Operating System	Microsoft® Windows 11		
	Fixture Type	Inline or Offline with Long Lifespan Quick Disconnection Interface. TR5001 SII: Offline Press Type		
TR5001 SII INLINE	PCB Size	50 x 50 – 510 x 510 mm (1.97 x 1.97 – 20.08 x 20.08 in.)		
	Max. PCB Weight	5 kg		
	Max. Clearance	Top: 90 mm (3.54 in.) / Bottom: 30 mm (1.18 in.) / Edge: 3 mm (0.12 in.)		
	Conveyor Height	890 – 960 mm (35.04 in – 37.80 in)		
Analog Hardware Measurement Switching Matrix	6-wire Measurement	2 Programmable Voltage Source: *DC 0 ~ ±10V, AC 0 ~ 7.071 Vrms* 1 Programmable High Voltage Source: *DC 53 V. Optional: 100 V* 1 Programmable Current Source: *DC 100 mA Max.*		
	Arbitrary Waveform Generator(AWG)	2 Digitally Synthesized Stimulus Sources Configurable Frequency Range 1 ~ 100 KHz, Resolution: 0.2 Hz, BW: 100 KHz Max.		
	Analog Measurement	AC Voltmeter: *0 ~ ±100 Vp* DC Voltmeter: *0 ~ ±100 V*		
	TestJet Technology	Vectorless Open Circuit Detection		
	Component Measurement Capability	Resistance: *30 mohm ~ 40 Mohm* Capacitance: *5 pF ~ 40 mF* Inductance: *1 µH ~ 10 H*		
	Calibration	Auto-calibration by DMM		
Optional Hardware	Digital Test	Non-multiplexing 1:1 Per Pin Architecture with Independent Per-pin Level Setting Serial Test Controller (STC) Programming Pin Drivers: *Programmable Levels 0.5 V to 4.5 V* Pin Receivers: *Programmable Levels 0 V to 5 V* Pull-up/Pull-down Resistor: *4.7 K* DUT Power Supplies: *5 V@3 A, 3.3 V@3 A, 12 V@3A, -12 V@1 A and 24 V@3 A Programmable Power (2 CH): 0.2 – 3 V@2 A max. or 3 – 24 V@3 A max.* DPS Programmable DUT Power supply : *DPS3514: 30Vmax/5Amax/100Wmax per channel /4CH per DPS DPS3122: 30Vmax/10Amax/200Wmax per channel /2CH per DPS* On-board Programming of Flash & EEPROM Memories Boundary Scan: *Includes BScan Chain Test, BScan Cluster Test, BScan Virtual Nails Test, BScan Virtual Chain Test and IEEE1149.6 Test* ToggleScan Test: *Advanced Test Technology that Combines with BScan and Vectorless Test Functions to Detect Pin Open or Short Issues*		
Power Requirement		200 – 240 VAC, Single Phase, 50/60 Hz, 3 kVA. Power Line Earth Ground Auto Detection. Power 50/60 Hz Auto Detection.		
Communication Standard		SMEMA, SECS/GEM, IPC-CFX-2591, IPC-HERMES-9852		
Air Requirement		Dry Air 4 – 8 kg/cm²		
Weight		TR5001 SII: 300 kg (661.39 lb) / TR5001 SII QDI: 440 kg (970.03 lb) / TR5001 SII INLINE: 687 kg (1514.58 lb)		

* The weight does not include notebook or accessories; final weight determined by system selected

Unit: mm (in.)



TR5001 SII **TR5001 SII QDI** **TR5001 SII INLINE**

Global Network

Shenzhen, China	shenzhen@cn.tri.com.tw	**Tokyo, Japan**	trijp@tri.com.tw
Suzhou, China	suzhou@cn.tri.com.tw	**Ansan, Korea**	trikr@tri.com.tw
Shanghai, China	shanghai@cn.tri.com.tw	**Penang, Malaysia**	trimy@tri.com.tw
San Jose, USA	triusa@tri.com.tw	**Bac Ninh, Vietnam**	trivn@tri.com.tw
Guadalajara, Mexico	trimx@tri.com.tw	**Bangkok, Thailand**	trith@tri.com.tw
Nuremberg, Germany	trieurope@tri.com.tw		

HEADQUARTERS
7F., No.45, Dexing West Rd., Shilin Dist.,
Taipei City 11158, Taiwan
+886-2-2832-8918 Sales@tri.com.tw

TRI 德律 TRI INNOVATION

© 2025 Test Research, Inc. All rights reserved
Specifications are subject to change.
All other trademarks are the property of their respective owners.

C-5001 SII-EN-2503

www.tri.com.tw