

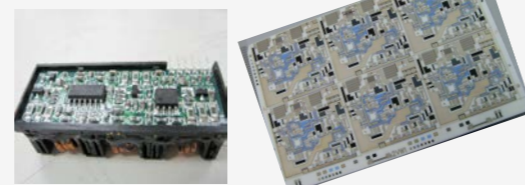
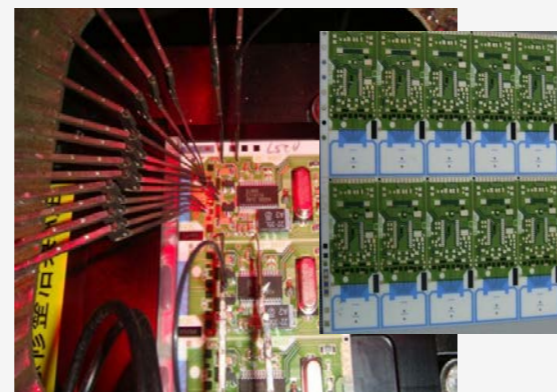
Function Trimmer TF-5900L

Thick Film Hybrid circuit Laser Trim System



An advanced new platform ideal for trim and test of Thick Film components and circuits, including PCBs, SMT components and Hybrids.

- Ability to trim Thick Film Hybrid circuits with Panel size max. of 4" x 4", for Passive and Active Trimming
- Offers wide range of trim from milli-ohms (mΩ) to Mega ohms (MΩ) and micro-machining applications
- Fully integrated test functions for accurate and fast measurements
- Windows based user-friendly GUI software for easy application programming and automation integration
- Built-in pattern recognition for auto compensation & precise alignment
- Intelligent sensors to detect and Motion Interlock features
- Advanced vision and motion subsystems provide improved positioning and alignment capability
- Equipped with GPIB interface for custom Instrumentation for Hybrid Active Trim



The Ultimate in Laser Trim

The Function Trimmer TF-5900L is the next generation thick film laser trim system from LaserTek Group. Built on a stiffer frame for maximum process stability and featuring a larger work area for devices up to 4 x 4 inches in size, the TF-5900's modular system design helps you process the devices more effectively, more quickly and more easily.

High Speed Beam Positioning System

Beam positioning is accomplished via high-speed galvanometers with closed-loop feedback system. LaserTek Group also offers the latest in video pattern recognition technology and software for fast and precise target alignment for applications such as Hybrid circuits, where the printing of component placement is not precisely repeatable.

Advanced Optical Design

The TF-5900L's vision system provides clear viewing of substrates, even under low contrast conditions.

Muti-featured LTS2010 Software

LTS2010 Software for TF-5900L runs under Windows XP environment, enabling many features as Clean cut-out, Fast Trim, Pulse & Measure, Scan field verification, Individual component Statistics, Active trim program editor etc. to provide user flexibility and define the parameters efficiently.

Flexible, Advanced Mechanical Design

The Function Trimmer TF-5900L is the single carriage thick film laser trim System.

Optical System

- **Beam Positioning:** Precision high-speed galvanometer
- **Field Size:** 50 x 50mm
- **Resolution:** 1.5μm
- **Repeatability:** 2.5 μm
- **Spot Size:** 20 -40 μm (standard 1064nm)
- **Focus Len:** 255 mm flat telecentric type



Laser System

- **Laser Type:** Diode pumped Q-switched
- **Output Power:** 6W (Average @ 10 KHz)
- **Wavelength:** Standard 1064nm
- **Pulse Width, nominal:** 70 nsec
- **Power Measurement:** Thermal pickup



Measurement System

- **Dual Mode:** Force Current & Force Voltage
- **Range:** 0.1Ω ~ 30 MΩ, 10 mΩ Optional
- **Accuracy:** 0.02% Midrange
- **Repeatability:** 0.01% Midrange
- **Resolution:** 0.005%
- **Measurement Time:** 50 μsec
- **Calibration Standards:** 6 pcs 0.01%
- **Guard Drive Current:** 100 mA
- **Guard Offset:** 1 mV

Utilities Requirements

- **Power:** 220 V AC, single phase, 10A (50/60Hz)
- **Air:** 80-100 psi / flow rate 10 cfm
- **Vacuum:** 100 CFM factory vacuum for debris removal and substrates retention

Special Features

- Single Carriage
- Improved universal carriage design to suit different sizes of hybrid substrates
- Supports both GT7 Probe card and wireless Probe card design
- New Optical Path with the camera for easy Probe pin Alignment on a cavity
- Completely re-designed Windows GUI to support easy production setup and improve machine productivity

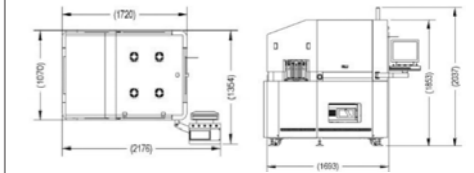
Switching Matrix

- **Pins per Card:** 16
- **Lines per Pin:** 3 (Force, Sense or Guard)
- **Cards per system (standard):** 8pcs std, 12 pcs maximum
- **Switch Type:** Dry Reed Relay
- **Contact Life:** 1 Billion Cycles
- **Insulation:** > 10 GΩ
- **Switching Time:** 200 μsec



Physical Characteristics

- **Dimensions:** 1720 mm x 1070 mm x 1853 mm
- **Weight:** 1010kg



X/Y Part Positioning

- **DUT transfer:** Pneumatic controlled Pick & Place
- **Pick and Place:** Telescopic arm, Retractable for full access to load probe card and maintenance
- **Carriage:** Single carriage
- **Carriage design:** 50 x 60mm or 60 x 70mm (standard) Customized carriage design to suit specific Panel sizes (e.g. 140 x 89mm, 102 x 102mm)
- **Theta Correction:** Stepper controlled mechanism for automatic compensation
- **DUT Clamper:** Intelligent clamper detects DUT's fully in-position at pre-trim stage



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