

# TF-2010G

## SERIES 2 Y70 LASER TRIMMER



A New Generation Platform for Trim and Test Thick Film Components Size of 0201 / 01005 and Circuits

- Advanced vision and motion subsystems provide dramatically improved positioning and alignment capability
- Capability to trim from ohms ( $\Omega$ ) to Mega-ohms ( $M\Omega$ )
- Built-in pattern recognition for auto compensation & precise alignment
- Ability to trim substrates with resistors sizes of 0201 (0.02"X0.01") and 01005 (0.01" X 0.005")
- User friendly GUI software
- Theta adjustment for clamping device for precise alignment
- Intelligent sensors to detect and isolate part defects
- Twin magazines to store additional substrates and reduce machine idle time.

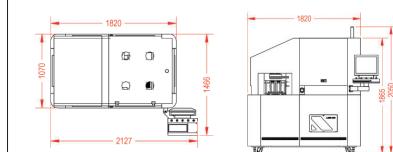
### TF-2010G SERIES 2 Y70 LASER TRIMMER SPECIFICATIONS

#### Optical System

- Beam Positioned:** Precision high-speed galvanometer
- Field Size:** 12 x 75mm
- Resolution:** 1.5μm
- Repeatability:** 2.5 μm
- Spot Size:** 11 -25 μm (standard 532nm)
- Focus Len:** 102 mm flat telecentric type

#### Physical Characteristics

- Dimensions:** 1820 mm x 1070 mm x 2050 mm



#### Laser System

- Laser Type:** Diode pumped Q-switched Nd: YAG laser
- Output Power:** 3W (Average @ 7.5 KHz)
- Wavelength:** Standard 532nm
- Mode:** TEM<sub>00</sub>
- Frequency Range:** 1-100KHz
- Pulse Width:** 70ns (nominal) @ 1KHz
- Power Measurement:** Thermal pickup

#### X/Y Part Positioning

- Type:** Dual carriage mounted on brushless DC servo motor stages
- X Axis:** Driven by high speed linear motor (carriages)
  - XY Resolution: 1μm
- Travel Speed:** 600 mm/s
- Prober:** High speed linear motor with pneumatic counter balance
- Theta Control:** Motorized theta control
- Alignment:** Pattern recognition based alignment
- Part Transfer:** Pneumatically controlled pick and place arms
- Part Load/Unload:** Dual set of magazines with elevators

#### 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 csm factory vacuum for debris removal and substrates retention

#### Controller

- Intel Core 2 duo processor for main application
- Pentium processor for trimmer application

#### Special Features

- Wireless probe card with very low contact resistance connectors and shielded cables for high measurement stability
- Advance sensors to detect part breakage along two edges
- Rotary control with two sets of magazines to reduce the machine idle time
- Improved pick-n-place design for efficient pick up and placing of substrates

#### Software

- LTS2010 software with an easy-to-use interface running in Windows XP

#### Switching Matrix

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

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