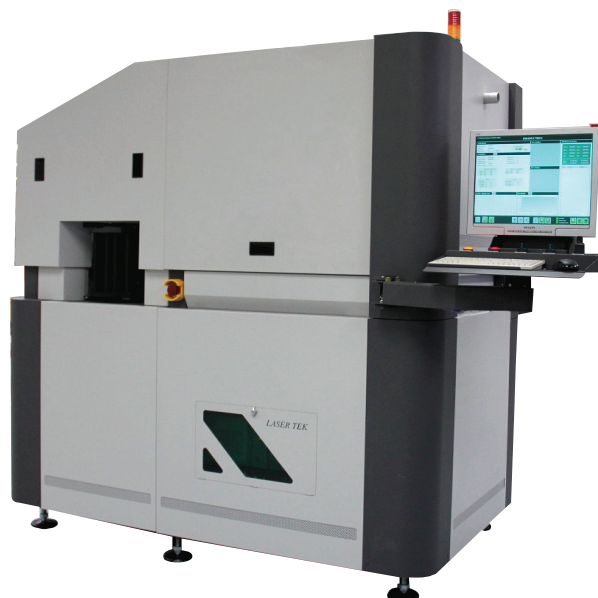


# TF-2010G

## 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:** 1.5 $\mu$ m
- **Repeatability:** 2.5  $\mu$ m
- **Spot Size:** 11 -25  $\mu$ m (standard 532nm)
- **Focus Len:** 102 mm flat telecentric type

#### 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

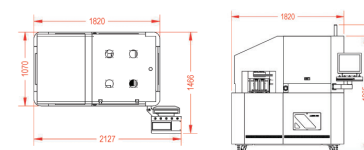
- **Type:** Dual carriage mounted on brushless DC servo motor stages
- **X Axis:** Driven by high speed linear motor (carriages) - XY Resolution: 1um
- **Travel Speed:** 600 mm/s
- **Prober:** High speed linear motor with pneumatic counter balance
- **Theta Control:** Motorized theta control
- **Alignment:** 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:** 0.1 $\Omega$  ~ 30 M $\Omega$ , 10 m $\Omega$  Optional
- **Accuracy:** 0.02% Midrange
- **Repeatability:** 0.01% Midrange
- **Resolution:** 0.005%
- **Measurement Time:** 50  $\mu$ sec
- **Calibration Standards:** 6 pcs 0.01%
- **Guard Drive Current:** 100 mA
- **Guard Offset:** 1 mV

#### Physical Characteristics

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



#### 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 G $\Omega$
- **Switching Time:** 200  $\mu$ sec

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