### TF-3050 Series 3 LDP10TQ Thick Film Chip Trimmer

**The TF-3050 Series 3 LDP10TQ** provides high accuracy performance to overcome the new challenges of smaller geometries of chip resistor trimming. Proprietary designs achieve the high accuracy mechanical positioning and ultra-stable laser beam control demanded by industry. **TF-3050 S3** utilizes vision registration theta rotation within a Windows XP operating system. These advance features are integrated with established substrate handling and automation systems.

#### Optical System
- **Beam Positioned:** Precision high-speed galvanometer
- **Field Size:** 12 x 90mm
- **Resolution:** 1.5μm
- **Repeatability:** 2.5μm
- **Spot Size:** 18 - 40μm (standard 1064nm)
- **Focus Lens:** 125mm flat telecentric type

#### Laser System
- **Laser Type:** Diode pumped Q-switched
- **Output Power:** 6W (Q-Switched Avg. Power @ 10KHz)
- **Wavelength:** Standard 1064nm
- **Pulse Width, nominal:** 150nsec
- **Power Measurement:** Thermal pickup

#### Measurement System
- **Dual Mode:** Force Current & Force Voltage
- **Range:** 0.12 - 30 mG
- **Accuracy:** 0.02% Midrange
- **Repeatability:** 0.01% Midrange
- **Resolution:** 0.0006%
- **Measurement Time:** 50 μsec
- **Calibration Standards:** 6 pcs 0.01%
- **Guard Drive Current:** 100 mA
- **Guard Offset:** 1 mV

#### Switching Matrix
- **Pins per Card:** 16
- **Lines per Pin:** 3 (Force, Sense or Guard)
- **Cards per System (Standard):** 6 pcs std, 12 pcs max
- **Switch Type:** Dry Reed Relay
- **Contact Life:** 1 Billion Cycles
- **Insulation:** > 10 GΩ
- **Switching Time:** 200 μsec

#### Controller
- **Intel Core 2 Duo processor for main application**
- **Pentium processor for trim engine**

#### Software
- **WinLts 3 Windows XP Application Software**
- **Intel Core 2 duo processor for main application**
- **Pentium processor for trim engine**

#### Special Features
- **Dimensions:** 1310mm x 1028 mm x 1800mm
- **Weight:** 900kg

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

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**TF-3050 Series 3 LDP15TQ Thick Film Chip Trimmer - Specifications**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type:</strong></td>
<td>DC Brushless Linear Motor</td>
</tr>
<tr>
<td><strong>Drive Type:</strong></td>
<td>Linear Drive</td>
</tr>
<tr>
<td><strong>Mechanism per System:</strong></td>
<td>Single</td>
</tr>
<tr>
<td><strong>Wafer Clamping:</strong></td>
<td>Center or Side clamping</td>
</tr>
<tr>
<td><strong>Travel Speed:</strong></td>
<td>1500 mm/sec</td>
</tr>
<tr>
<td><strong>Acceleration:</strong></td>
<td>1.2 G</td>
</tr>
<tr>
<td><strong>Resolution:</strong></td>
<td>1 μm</td>
</tr>
<tr>
<td><strong>Index Time (1.5mm):</strong></td>
<td>30 msec</td>
</tr>
</tbody>
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