The **sercalo** MEMS 3D mirrors are used for precise optical beam steering.

The micromirror is designed to minimize effects such as drift, hysteresis and temperature dependent performance. The angle is set using electrostatic actuation.

**FEATURES**
- Low drift
- 2 independent axis
- Continuous tilting
- Single mirror
- 2.0 x 2.5 mm² mirror
- High fill factor

**APPLICATIONS**
- Optical Beam Steering
- Reconfigurable Add-Drop Multiplexer
- Vibration control in free space optics
- Optical Processor

**ORDERING INFORMATION**

| TM-2520 | 2.0 x 2.5 mm² mirror |

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Ph: 203-401-8093
Email orders to: sales@xsoftix.com
Fax orders to: 800-878-7282
### TYPICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Actuation Voltage</td>
<td>V</td>
<td>60</td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>Surface Finish</td>
<td></td>
<td>Al</td>
<td>Au</td>
<td></td>
</tr>
<tr>
<td>Reflectivity (900-2000 nm)</td>
<td>%</td>
<td></td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Mirror Size – X</td>
<td>µm</td>
<td>2500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirror Size – Y</td>
<td>µm</td>
<td>2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirror Radius of Curvature</td>
<td>m</td>
<td>1.0</td>
<td></td>
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</tr>
<tr>
<td>Tilt Angle – X (Mechanical) @ 60 V</td>
<td>°</td>
<td></td>
<td>±7.5</td>
<td></td>
</tr>
<tr>
<td>Tilt Angle – Y (Mechanical) @ 60 V</td>
<td>°</td>
<td></td>
<td>±4.5</td>
<td></td>
</tr>
<tr>
<td>Resonant Frequency - X</td>
<td>Hz</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resonant Frequency - Y</td>
<td>Hz</td>
<td>145</td>
<td></td>
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</tr>
<tr>
<td>Package</td>
<td></td>
<td>TO5</td>
<td></td>
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<tr>
<td>ESD</td>
<td></td>
<td></td>
<td>Unprotected = VERY SENSITIVE Overvoltage above 70 V can permanently damage the device.</td>
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</tbody>
</table>

### ORDERING INFORMATION

- Surface finish:
  - = Al
  AU = Gold

- Mirror Size:
  2520 = 2.5 x 2.0 mm

- Angle X (inner):
  X75 = ±7.5° (mechanical @ 60V)

- Angle Y (outer):
  Y45 = ±4.5° (mechanical @ 60V)

- Window:
  N = no window
  G = glass without coating
  AR 15 = anti reflective coating @ 1550nm
Figure 1: Pin layout of a Ø2.0 mm micro-mirror chip on TO5 socket

Figure 2: Typical tilt angle vs. applied voltage

Figure 3: Typical step response