OVERVIEW
The sercalo MEMS 3D mirrors are used for precise optical beam steering. To avoid an optical feedback loop, the micromirror is designed to minimize effects such as drift, hysteresis, and temperature dependent performance. The angle is set using electrostatic actuation.

Electrostatic driven mirrors combine the high pointing stability and the high fill factor required typically in fiber optic components.

FEATURES
- Low drift
- 2 independent axes
- Continuous tilting
- Single mirror
- 1 mm diameter mirror
- High fill factor

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

ORDERING INFORMATION
<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
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<tbody>
<tr>
<td>TM-10-AU</td>
<td>Ø1.0 mm Mirror Gold surface</td>
</tr>
<tr>
<td>TM-10-AL</td>
<td>Ø1.0 mm Mirror Aluminium surface</td>
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</tbody>
</table>

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Information in this datasheet is believed to be correct but Sercalo reserves the right to change specifications without notice at any time. [90-1144-6]
TYPICAL SPECIFICATIONS (All designs)

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<th>Unit</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
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<tbody>
<tr>
<td>Max. Actuation Voltage</td>
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<tr>
<td>Surface Finish</td>
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<td>Gold or Aluminium</td>
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<tr>
<td>Reflectivity (900-2000 nm)</td>
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<td>Mirror Size – X</td>
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<td></td>
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<tr>
<td>Mirror Size – Y</td>
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<tr>
<td>Mirror Radius of Curvature</td>
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<td>Tilt Angle – X (Mechanical) @ 40 V</td>
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<td>±3.5°</td>
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<tr>
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<td>Package</td>
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ESD

Unprotected = VERY SENSITIVE
Overvoltage above 45 V can permanently damage the device.

ORDERING INFORMATION

Surface finish
AL = Aluminium
AU = Gold

Mirror Size
10 = Ø 1.0 mm

Angle X (inner)
X35 >= ±3.5°
(mechanical @ 40V)

Angle Y (outer)
Y35 >= ±3.5°
(mechanical @ 40V)

Window
N = no window
G = glass without coating
AR 15 = anti reflective coating @ 1550nm
(normal incidence)
Figure 1: Pin layout of Ø1.0 mm micro-mirror chip on TO46

Figure 2: Typical tilt angle (mechanical) vs. applied voltage

Figure 3: Typical step response