

# MEMS ELECTRO- STATIC MICRO MIRRORS



## 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

**TM-10-AU** Ø1.0 mm Mirror Gold surface

**TM-10-AL** Ø1.0 mm Mirror Aluminium surface

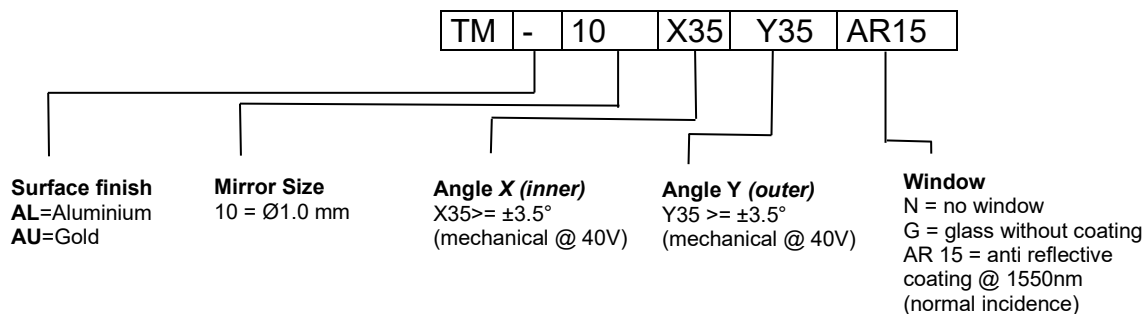
## CONTACT

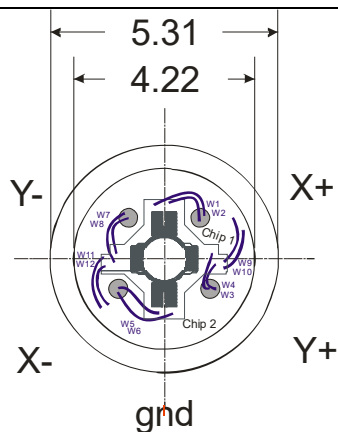
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## TYPICAL SPECIFICATIONS (All designs)

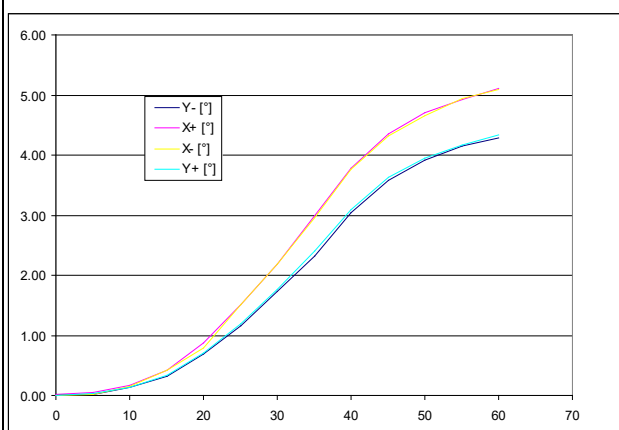
	Unit	Min	Typ	Max
Max. Actuation Voltage	V		40	44
Surface Finish	-	Gold or Aluminium		
Reflectivity (900-2000 nm)	%		95	
Mirror Size – X	mm	1.0		
Mirror Size – Y	mm	1.0		
Mirror Radius of Curvature	m	1.0		
Tilt Angle – X (Mechanical) @ 40 V	deg		$\pm 3.5^\circ$	
Tilt Angle – Y (Mechanical) @ 40 V	deg		$\pm 3.5^\circ$	
Resonant Frequency - X	Hz		>700	
Resonant Frequency - Y	Hz		>700	
Package		TO46		
ESD	<b>Unprotected = VERY SENSITIVE</b> Overvoltage above 45 V can permanently damage the device.			

## ORDERING INFORMATION

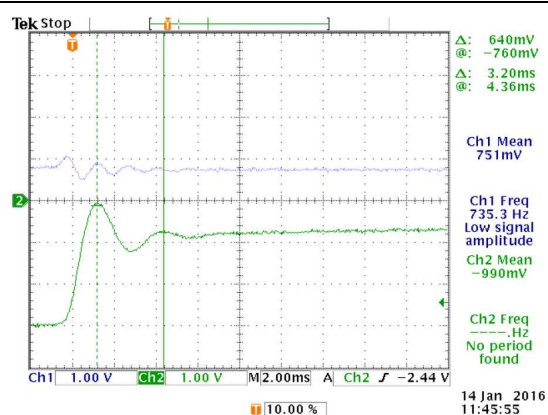




**Figure 1:** Pin layout of Ø1.0 mm micro-mirror chip on TO46



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



**Figure 3:** Typical step response

お問い合わせ先

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