



MEMS ELECTRO- STATIC MICRO MIRRORS

OVERVIEW

The **sercalo** MEMS 3D mirrors are used for precise optical beam steering. To avoid an optical feed back 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

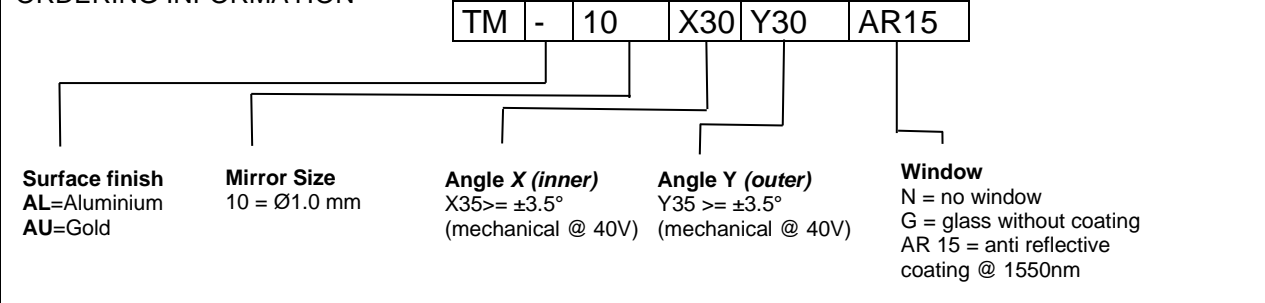
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TYPICAL SPECIFICATIONS (All designs)

	Unit	Min	Typ	Max
Max. Actuation Voltage	V		40	44
Surface Finish	-		Al or Au	
Reflectivity (900-2000 nm)	%		95	
Mirror Size – X	µm	1000		
Mirror Size – Y	µm	1000		
Mirror Radius of Curvature	m	1.0		
Tilt Angle – X (Mechanical) @ 40 V	°		±3.5	
Tilt Angle – Y (Mechanical) @ 40 V	°		±3.5	
Resonant Frequency - X	Hz		>700	
Resonant Frequency - Y	Hz		>700	
Package		TO46		
ESD	Unprotected = VERY SENSITIVE Overvoltage above 45 V can permanently damage the device.			

ORDERING INFORMATION



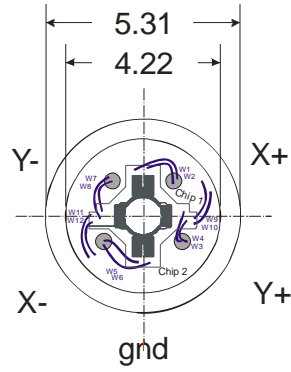


Figure 1: Pin layout of Ø1.0 mm micro-mirror chip on TO46

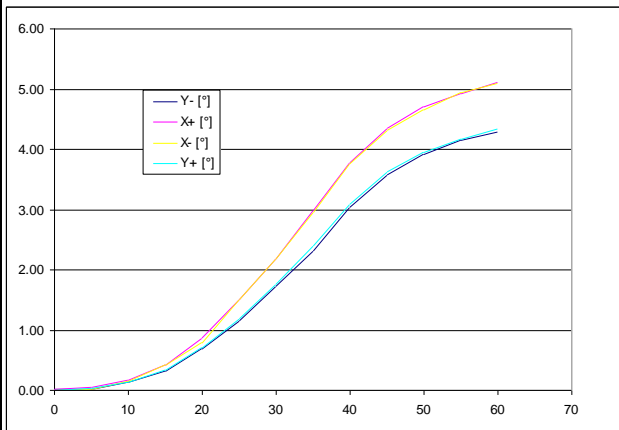


Figure 2: Typical tilt angle (mechanical) vs. applied voltage

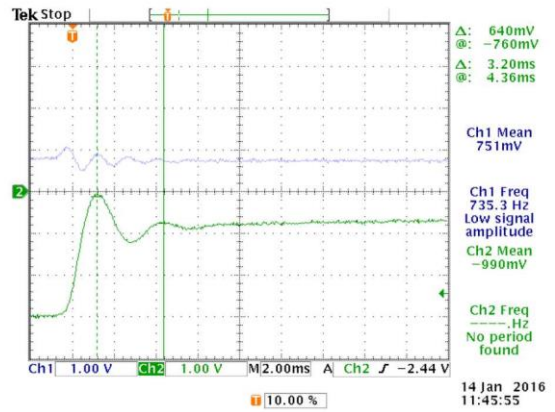


Figure 3: Typical step response

Ordering Information:



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