

## MEMS Tilting Micro-Mirror Array

### 1. Key Specifications

- Single or dual axis tilting for each mirror
- One-dimensional linear mirror array; two-dimensional mirror matrix array
- Array Size: 1x40; 1x99; 5x5; 6X6
- Mirror size: Ø0.82, Ø1.0 mm in diameter; ~0.11x0.94 and 0.24x0.5 in rectangular shape
- Max. tilt angle range: X +/-7.5 deg., Y +/-8.0 deg.
- Electrostatic actuation (quasi-static actuation); visually zero power consumption

### 2. Specifications

Parameters	Conditions	Unit	Specifications		
			Min	Typical	Max
<b>Mirror Size</b>	Circular	mm		Ø0.82 and Ø1.0	
	Rectangular			~0.11x0.94 and 0.24x0.5	
<b>Array Size</b>	1D linear or matrix array		1x40; 1x99; 5x5; 6X6		
<b>Mirror Flatness</b>	ROC	m	0.8	1	5
<b>Reflectivity (Al or Au reflector)</b>	1260-1660 nm	%	96		99
<b>Power Handling</b>		mW			500
<b>Damage Voltage</b>	X and Y axes	V	70		210
<b>Actuation Voltage</b>	X axis, at room temp.	V	60		200
	Y axis, at room temp.	V	60		200
<b>Max Tilt Angle</b>	X	deg.	+/- 2.5		+/- 7.5
	Y	deg.	+/- 2.5		+/- 8.0
<b>Resonant Frequency</b>	X	Hz	800		2,500
	Y	Hz	1,100		8,500
<b>Response Time</b>	From neutral to max tilt angle using a step function input	ms			1
<b>Temperature Stability</b>	Over -5 to 75 °C	deg.			0.001
<b>Durability</b>	Hermetically sealed	Cycle		10 <sup>9</sup>	
<b>Operating Temperature</b>		°C	-5		75
<b>Storage Temperature Range</b>	5% humidity	°C	-40		85
<b>Baking Temperature</b>	Less than 3h	°C			110
<b>Wire Bond Temperature</b>	Less than 5min	°C			150