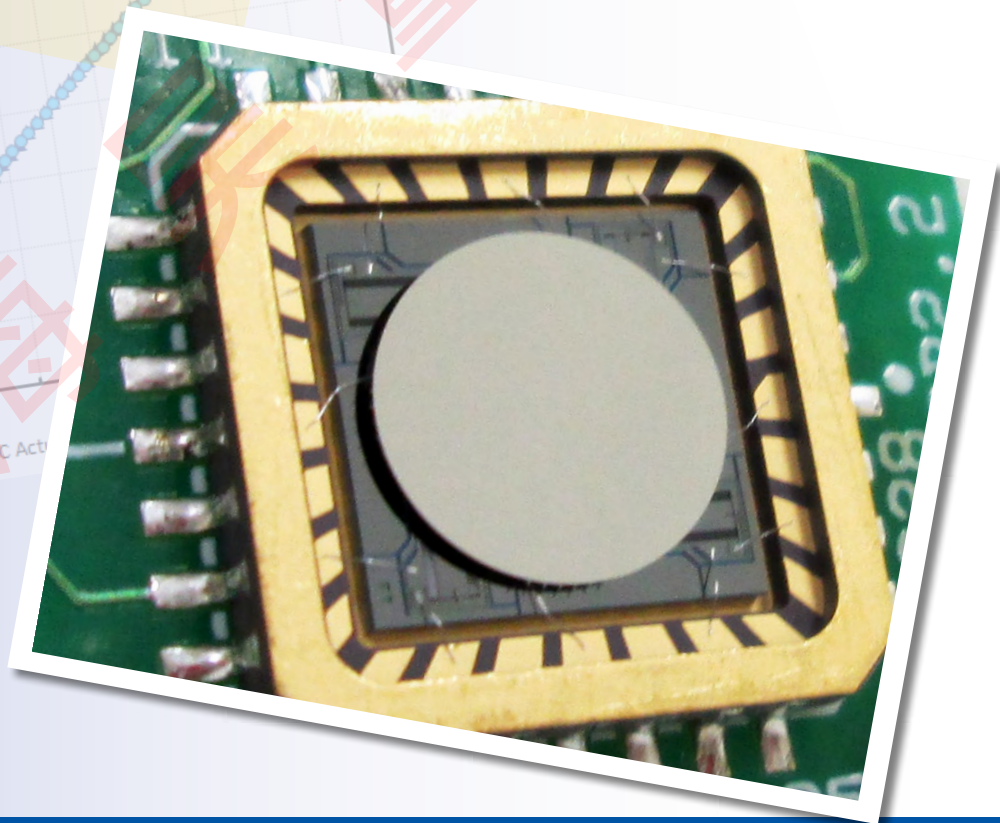
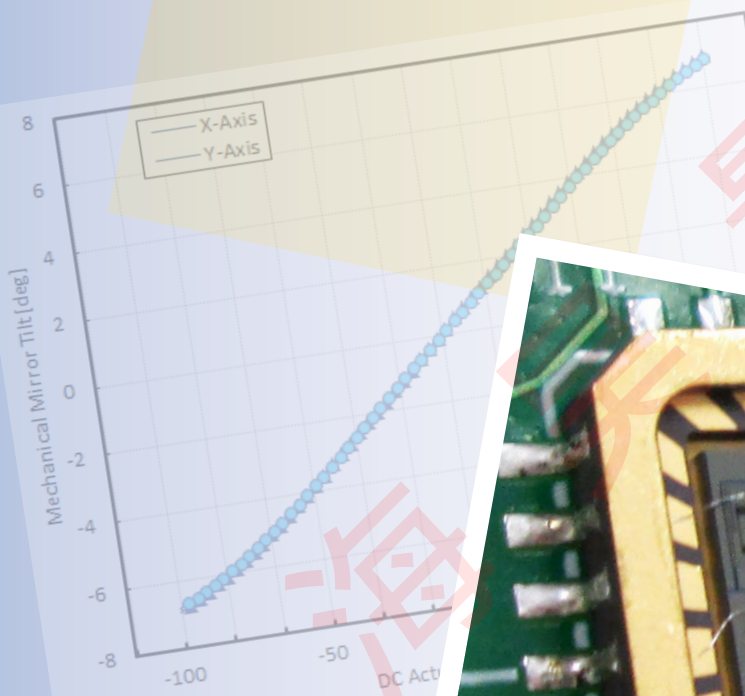


# Gimbal-Less Two-Axis Scanning MEMS Micromirrors

Device Datasheet  
S4413



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# Device Parameters Summary

**Device ID :** S4413

**Actuator Name :** A7B1.1

**Actuator Type :** 4-Quadrant (Two-Axis, Bidirectional)

**Mirror Type and Size :** Bonded mirror of 3.6mm diameter

**Mirror Coating :** Gold

**Maximum Angle - X Axis [degrees] :** 6.6005

**Maximum Angle - Y Axis [degrees] :** 6.5649

**Maximum Voltage - X Axis [V] :** 140

**Maximum Voltage - Y Axis [V] :** 139

**Bias Voltage [V] :** 80

**Maximum Angle - Coupled Axes [degrees] :** 8.4045

**Resonant Frequency - X Axis [Hz] :** 303

**Resonant Frequency - Y Axis [Hz] :** 300

**Quality Factor- X Axis :** 19

**Quality Factor - Y Axis :** 16

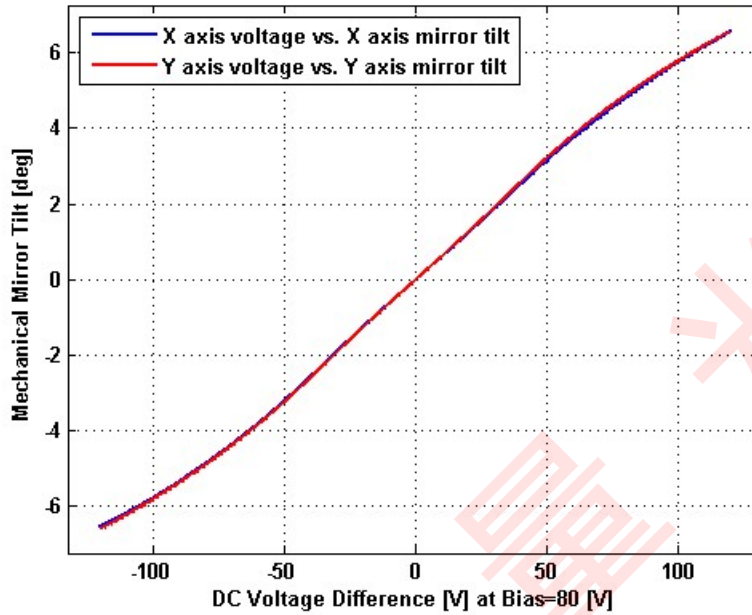
**Recommended LPF Cutoff Frequency (6th Order Bessel) :** 130

**Date and Time Report was Created:** 27-Feb-2015 at 14:7:23

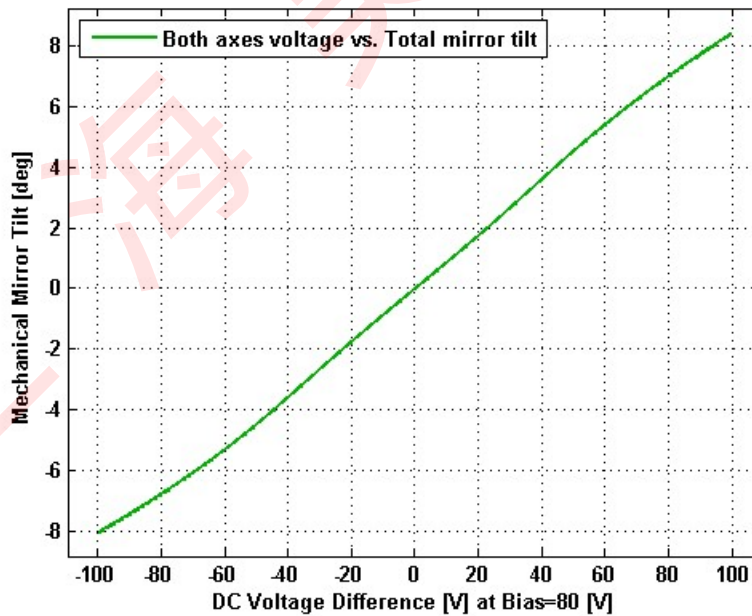
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# Static Response

## Voltage vs. Angle - Individual Axes

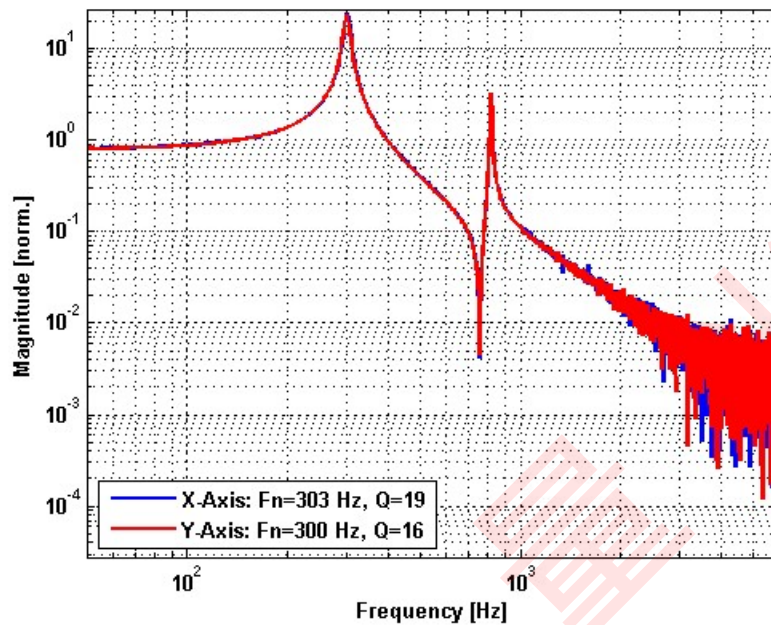


## Voltage vs. Angle - Coupled Axes

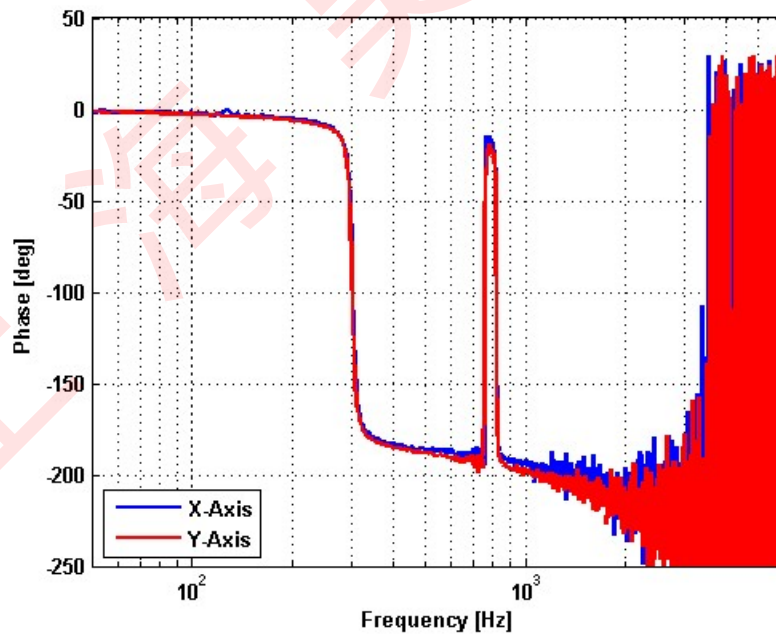


# Frequency Response

## Small Signal Frequency Response - Magnitude



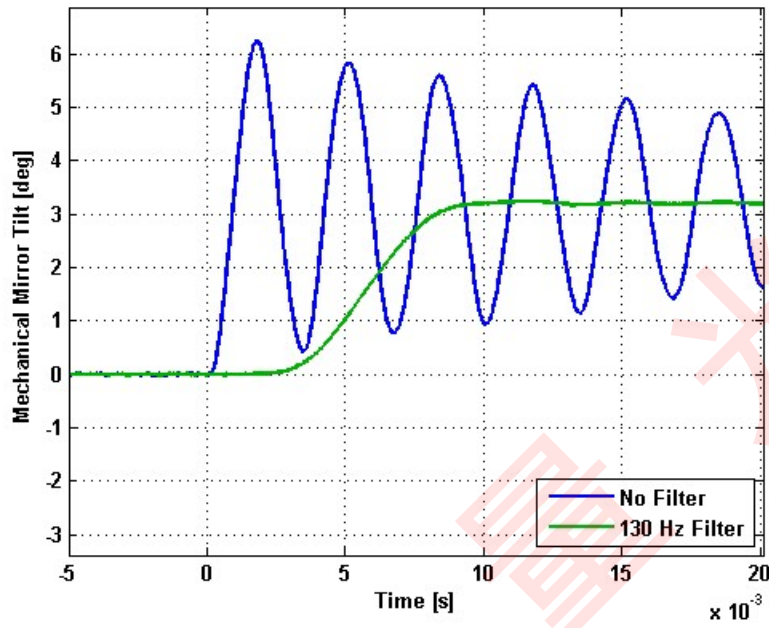
## Small Signal Frequency Response - Phase



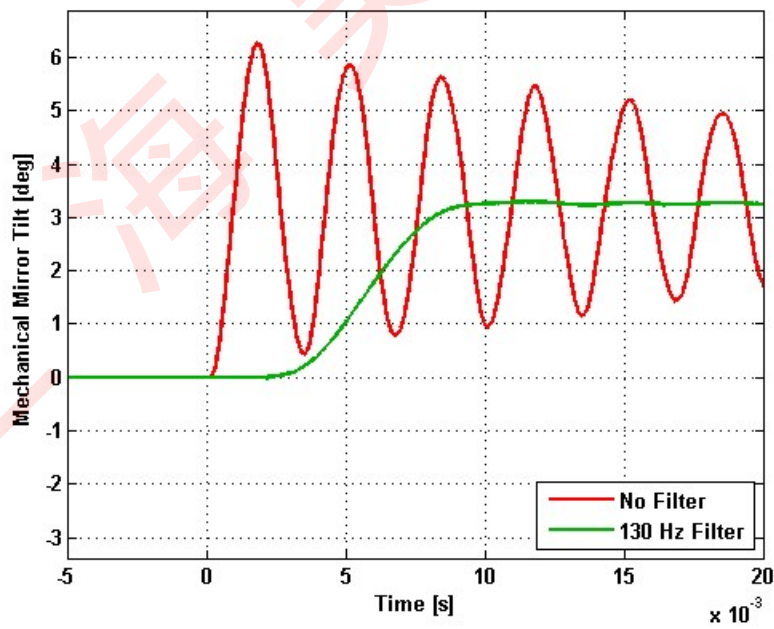
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# Step Response

## X-Axis Step Response



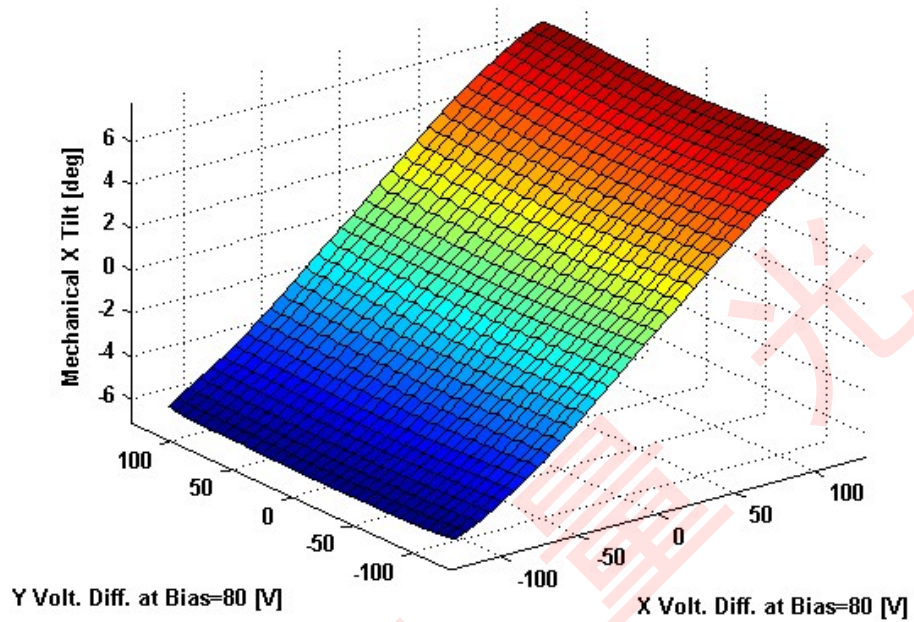
## Y-Axis Step Response



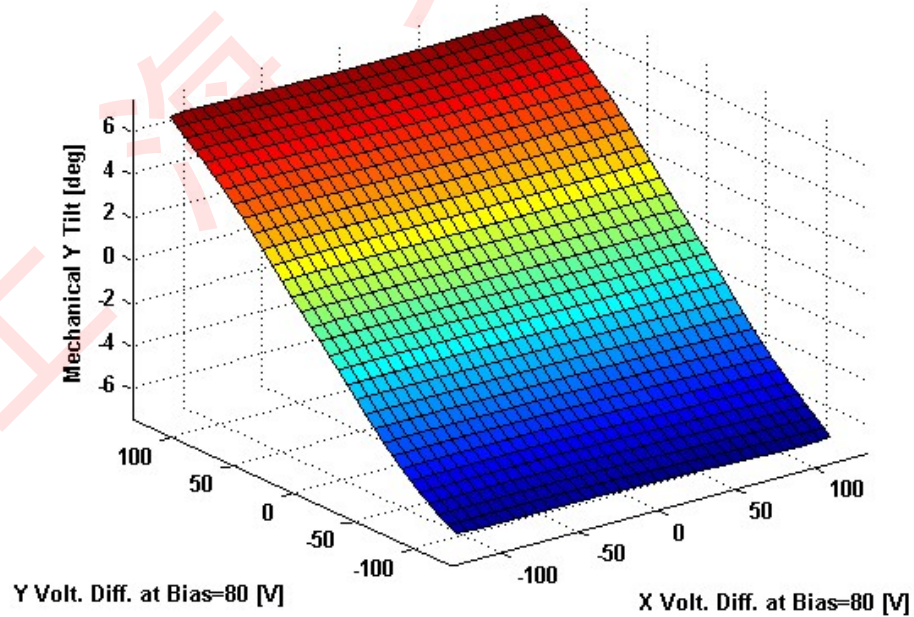
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# 2D Lookup Tables

## Voltage vs. X Angle - Lookup Table



## Voltage vs. Y Angle - Lookup Table



# Y Angle vs. X Angle - Addressable Angles

