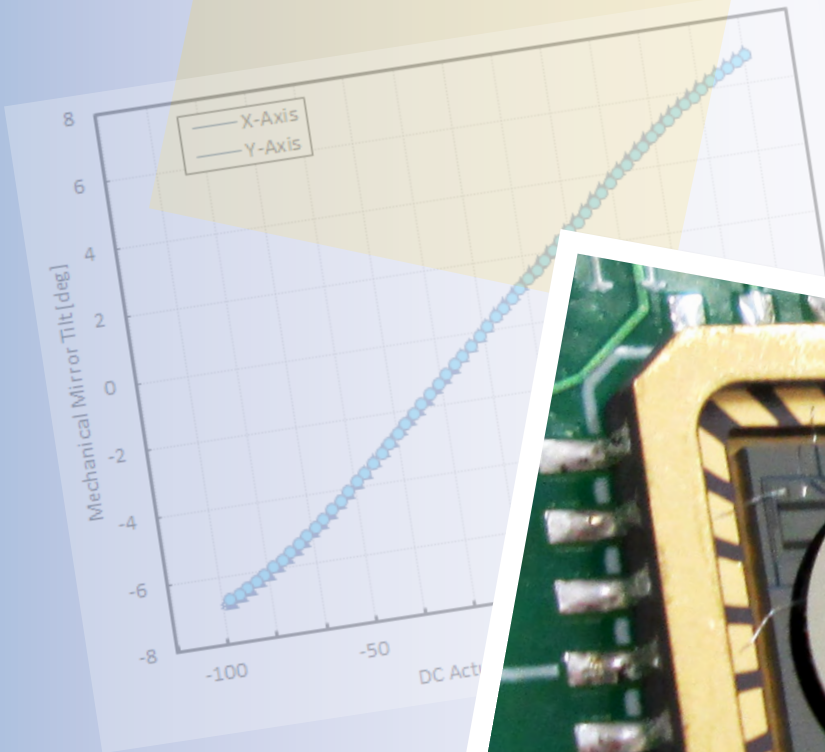




## Gimbal-Less Two-Axis Scanning MEMS Micromirrors

Device Datasheet  
S31176



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# Device Parameters Summary

**Device ID :** S31176

**Actuator Type:** A7B1.1

**Actuator Mode :** Gimbal-less Dual-Axis Quasistatic

**Mirror Type and Size :** Bonded mirror of 2.0mm diameter

**Mirror Coating :** Gold

**Maximum Mech. Angle - X Axis [degrees] :** 7.0345

**Maximum Mech. Angle - Y Axis [degrees] :** 7.2298

**Maximum Vdifference - X Axis [V] :** 144

**Maximum Vdifference - Y Axis [V] :** 144

**Driver Bias Voltage (Vbias) [V] :** 80

**Maximum Mech. Angle - Coupled Axes [degrees] :** 9.0365

**Resonant Frequency - X Axis [Hz] :** 713

**Resonant Frequency - Y Axis [Hz] :** 706

**Quality Factor - X Axis :** 76

**Quality Factor - Y Axis :** 75

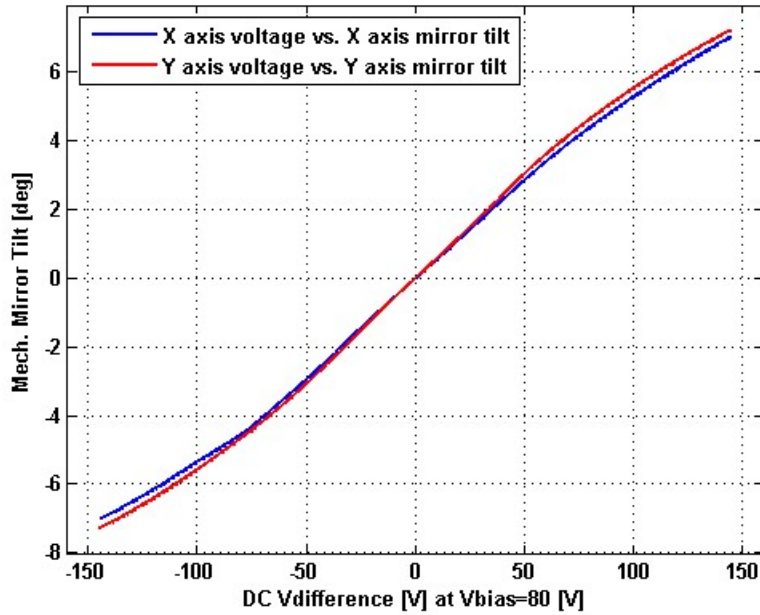
**Recommended LPF Cutoff Frequency (6th Order Bessel) [Hz] :** 350

**Date and Time Report was Created:** 14-Oct-2019 at 10:49:8

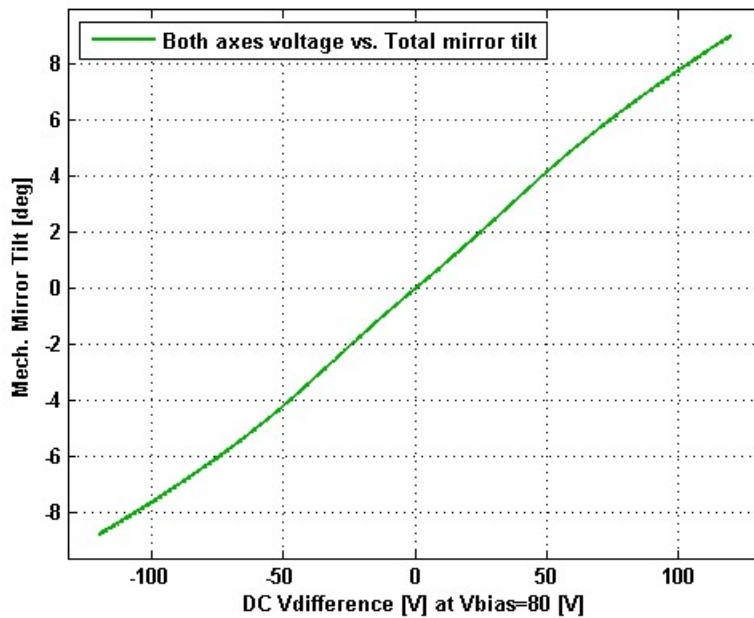
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# Static Response

## Voltage vs. Mech. Angle - Individual Axes



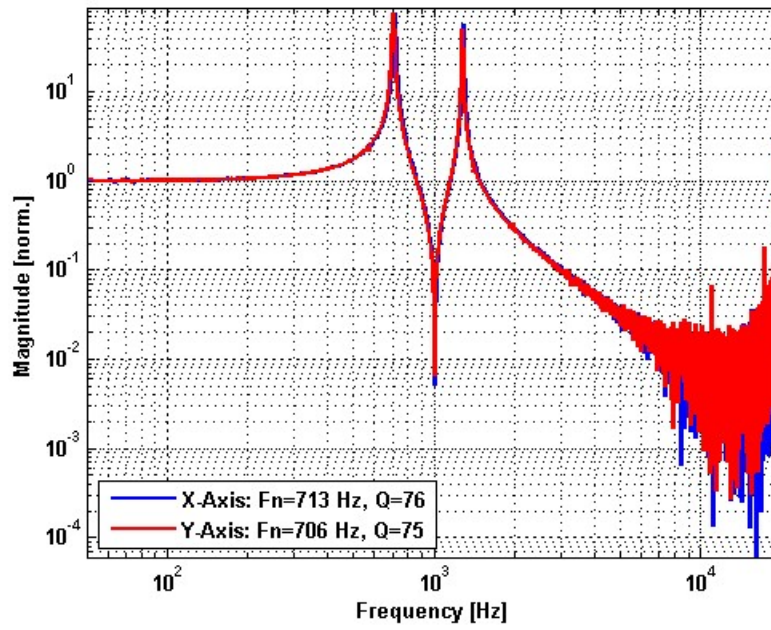
## Voltage vs. Mech. Angle - Coupled Axes



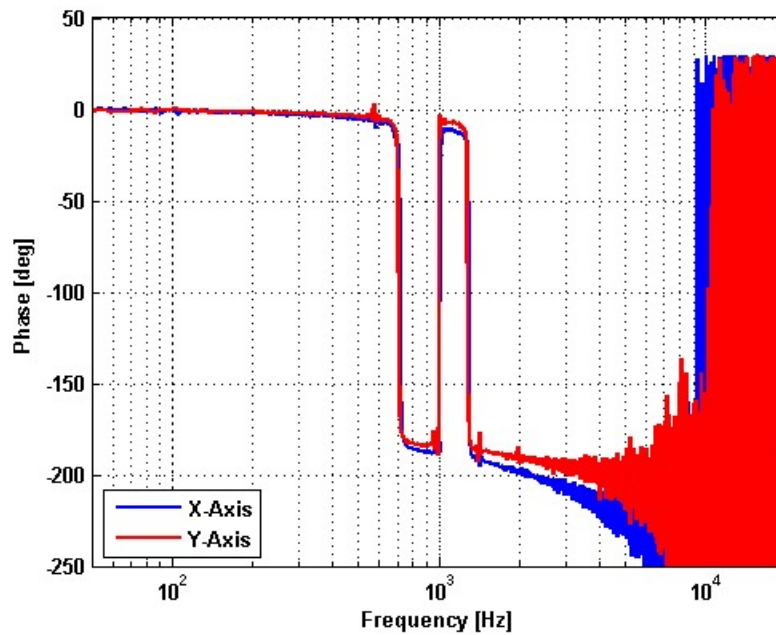
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# Frequency Response

## Small Signal Frequency Response - Magnitude



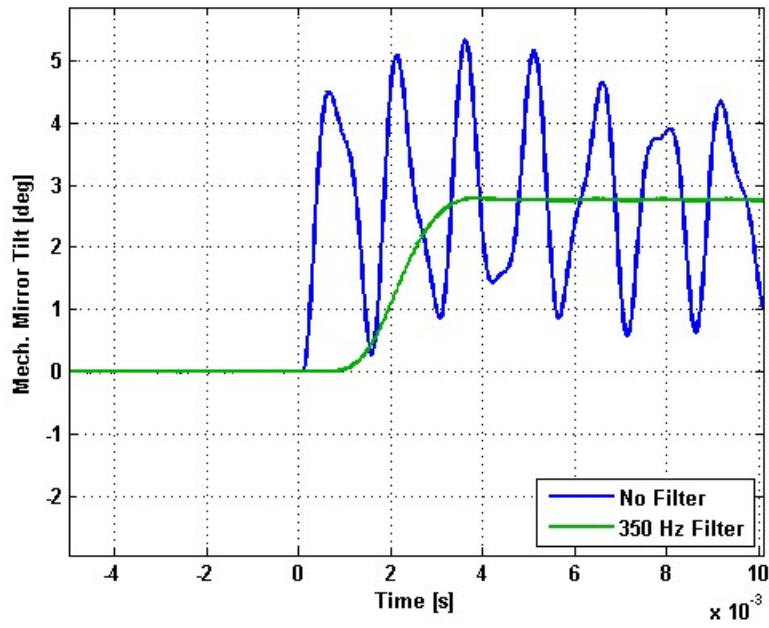
## Small Signal Frequency Response - Phase



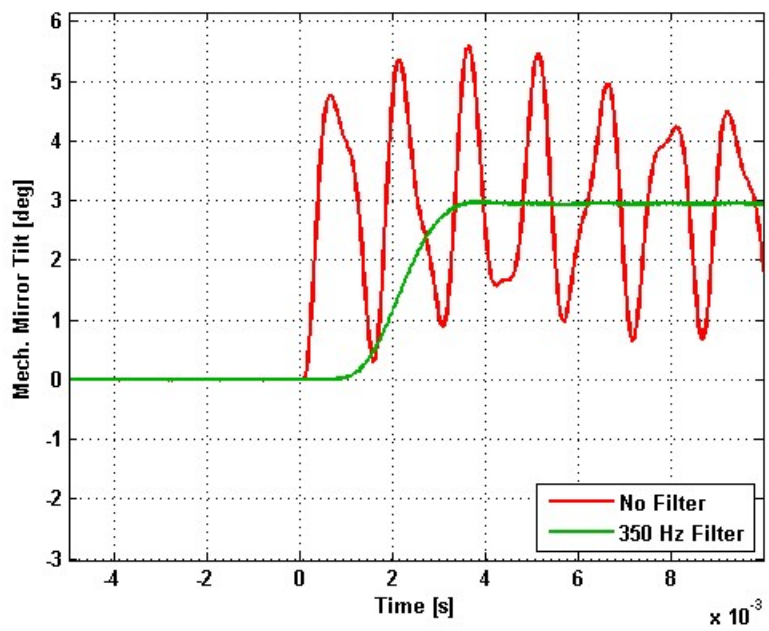
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# Step Response

## X-Axis Step Response



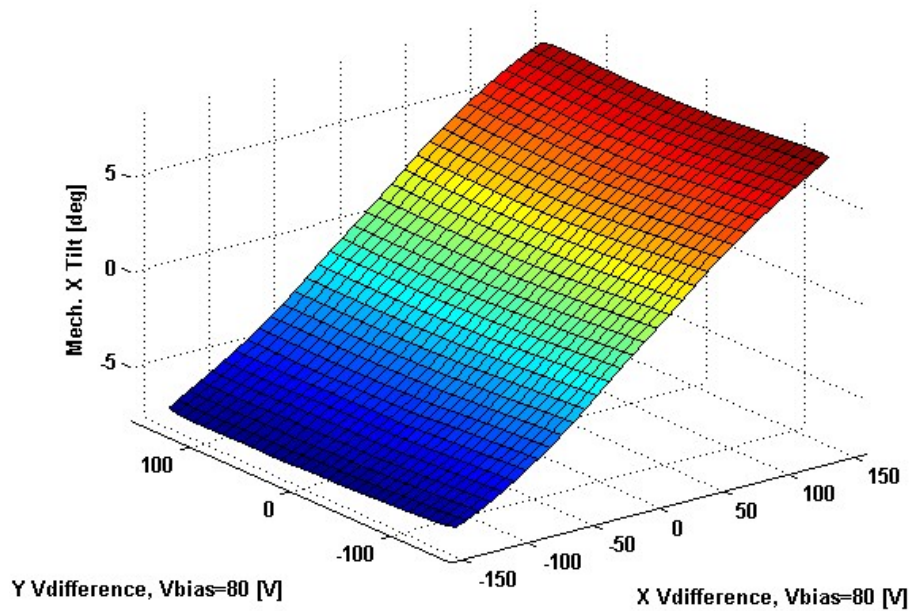
## Y-Axis Step Response



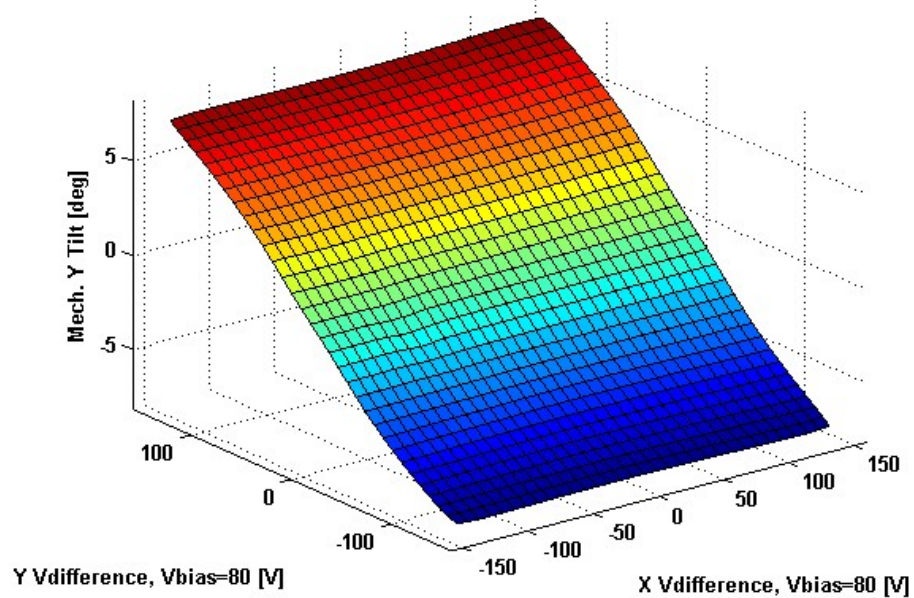
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# 2D Lookup Tables

## Voltage vs. X Mech. Angle - Lookup Table



## Voltage vs. Y Mech. Angle - Lookup Table



# Y vs. X Tilt - Addressable Mech. Angles

