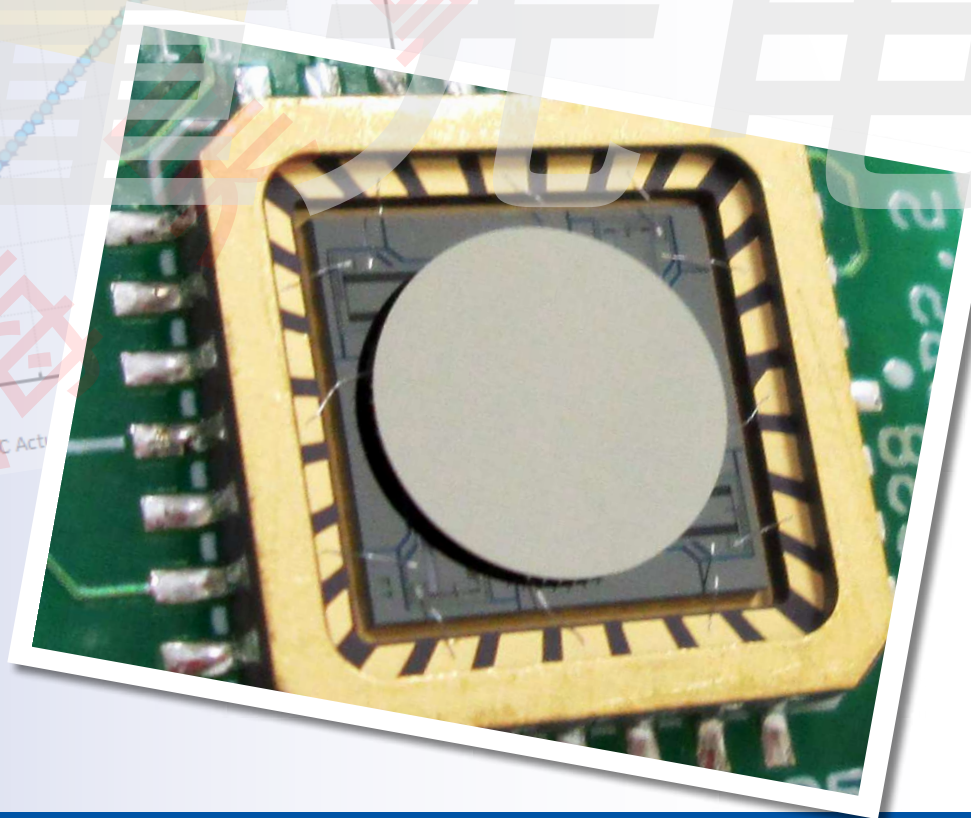
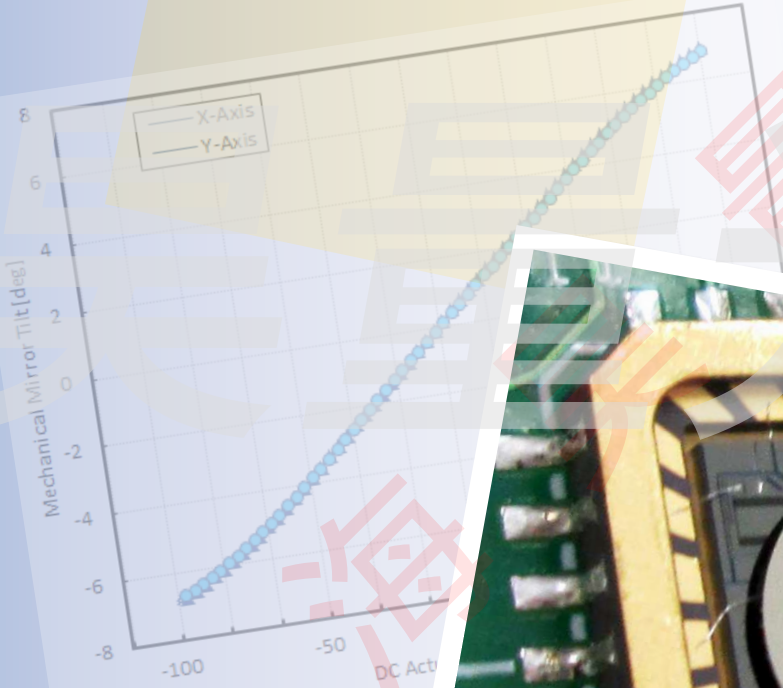


# Gimbal-Less Two-Axis Scanning MEMS Micromirrors

Device Datasheet  
S42166



[www.auniontech.com](http://www.auniontech.com)

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# Device Parameters Summary

**Device ID :** S42166

**Actuator Name:** A5L2.1

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

**Mirror Type:** Bonded

**Mirror Size :** 4.2mm diameter

**Mirror Coating :** Aluminum

**Maximum Mech. Angle - X Axis [degrees] :** 1.0214

**Maximum Mech. Angle - Y Axis [degrees] :** 1.0084

**Maximum Vdifference - X Axis [V] :** 153.3400

**Maximum Vdifference - Y Axis [V] :** 152.2700

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

**Maximum Mech. Angle - Coupled Axes [degrees] :** 1.2144

**Resonant Frequency - X Axis [Hz] :** 1712

**Resonant Frequency - Y Axis [Hz] :** 1714

**Quality Factor - X Axis :** 78.7000

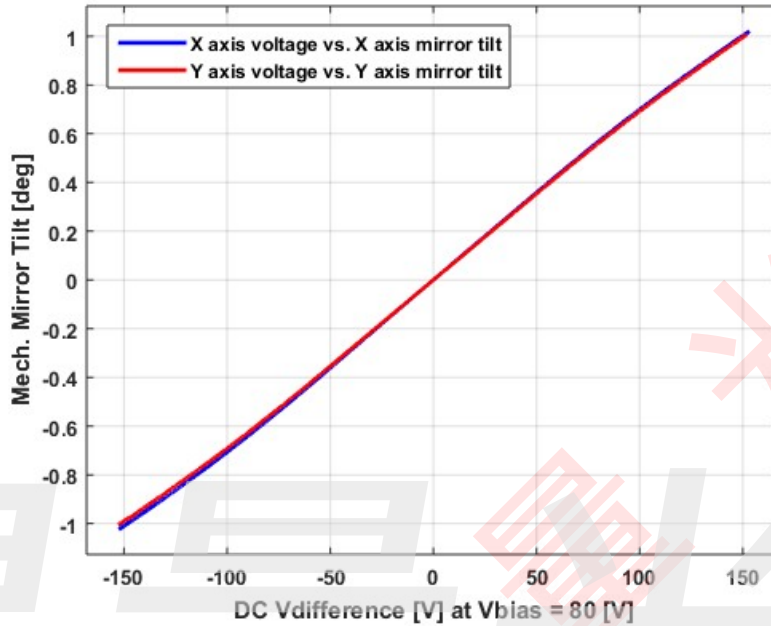
**Quality Factor - Y Axis :** 76.8000

**Recommended LPF Cutoff Frequency (6th Order Bessel) [Hz] :** 600

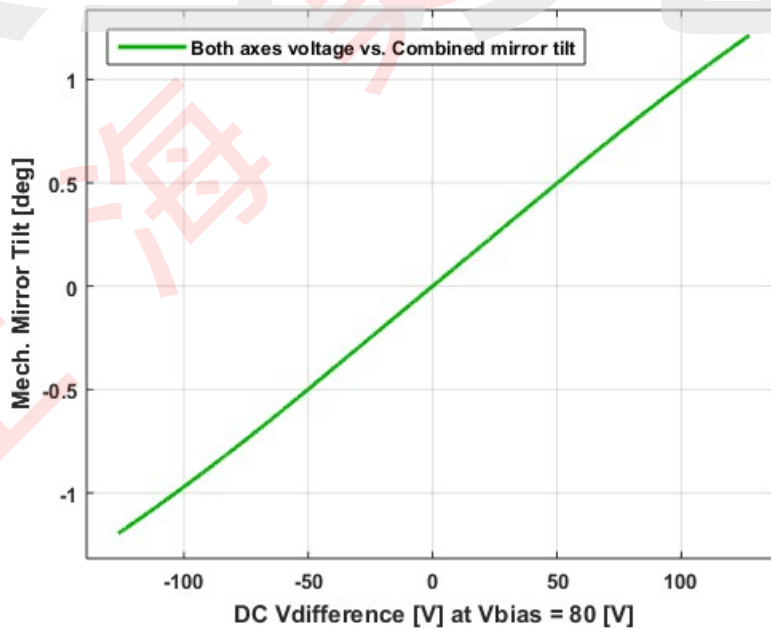
**Date and Time Report was Created:** 12-Jun-2018 at 13:12:51

# Static Response

## Voltage vs. Mech. Angle - Individual Axes

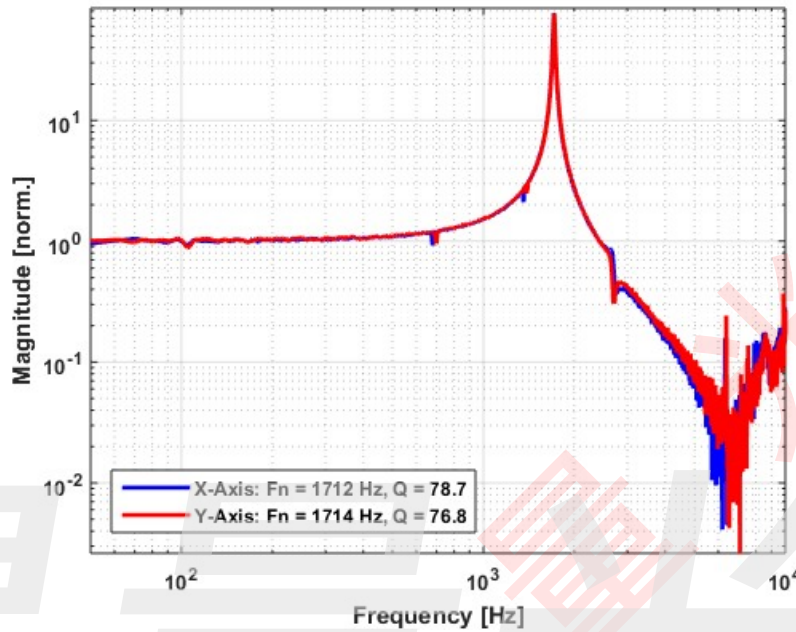


## Voltage vs. Mech. Angle - Coupled Axes

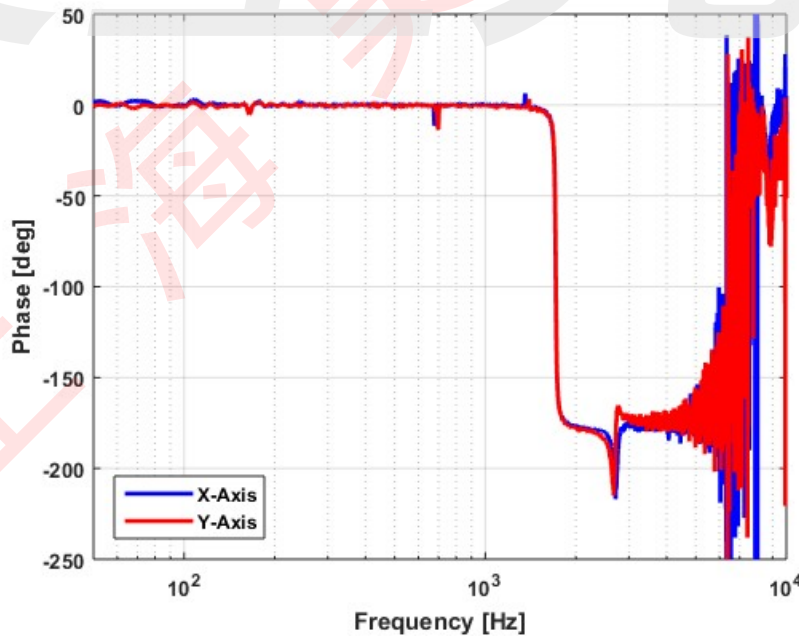


# Frequency Response

## Small Signal Frequency Response - Magnitude

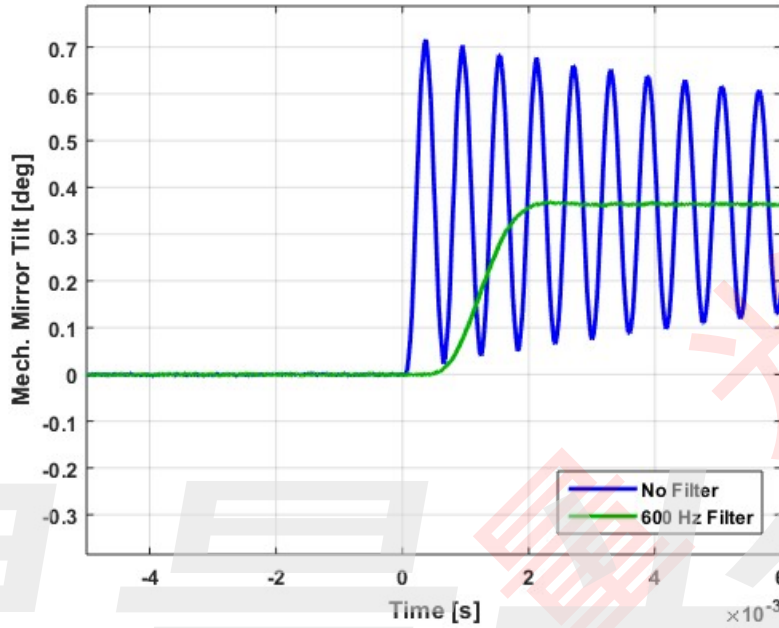


## Small Signal Frequency Response - Phase

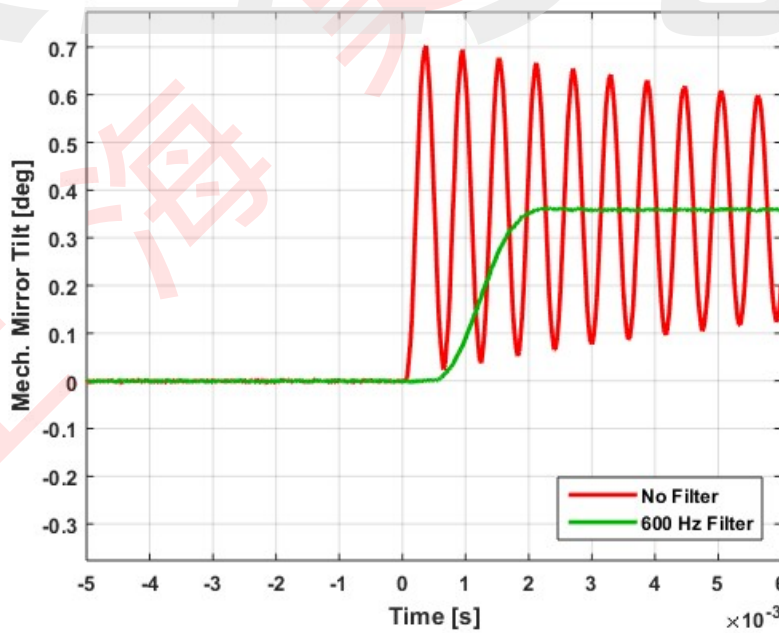


# Step Response

## X-Axis Step Response



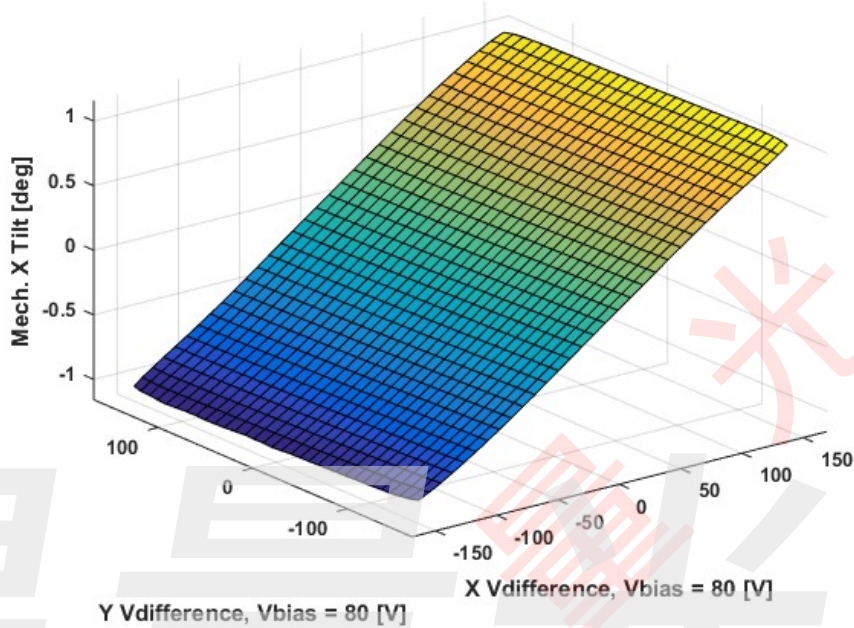
## Y-Axis Step Response



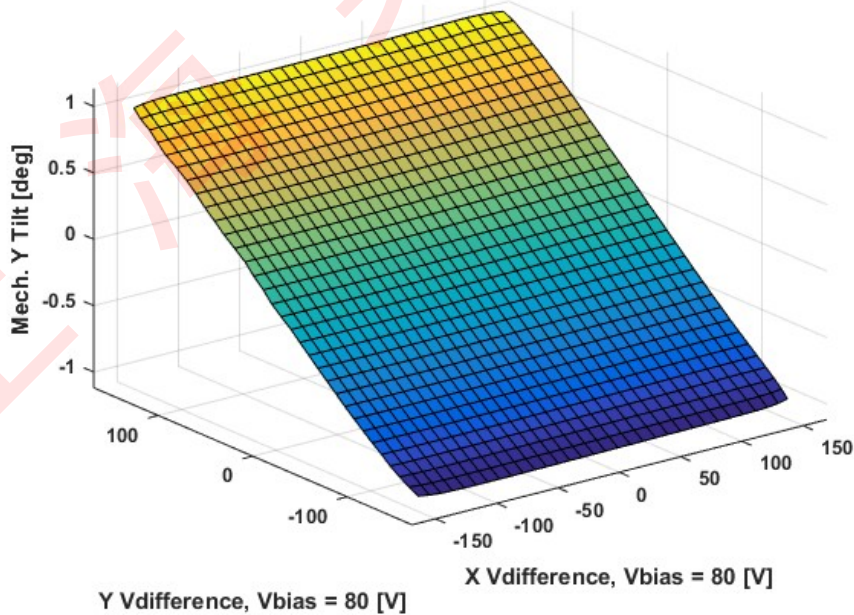


# 2D Lookup Tables

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



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



## Y vs. X Tilt - Addressable Mech. Angles

