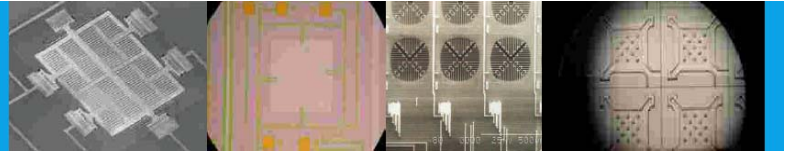


MTX2-02G

Dual Axis Accelerometer – Low g



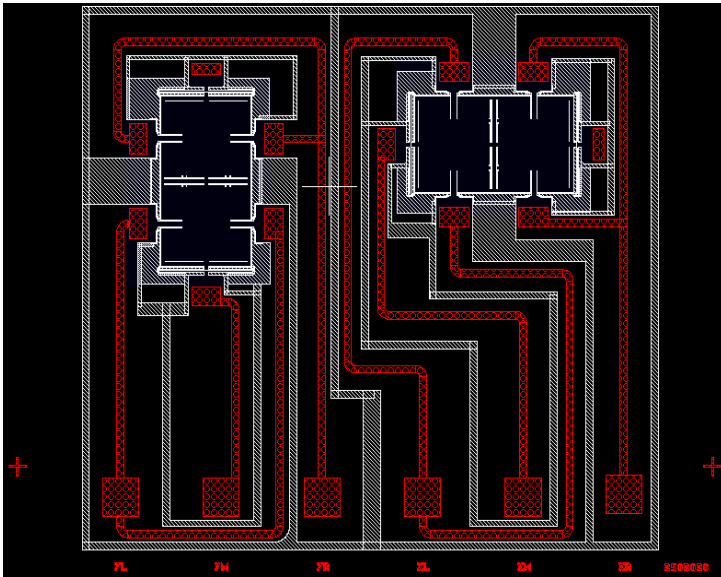
Dual Axis Silicon Accelerometer Die

The MTX2-02G series capacitive silicon accelerometer sensors are manufactured in class 10 clean room using state of the art CMOS and bulk micro-machining capabilities. They are manufactured in six inch wafers, utilizing DRIE techniques and patented processes.

An applied force or acceleration (including gravity) causes a capacitance shift in a differential capacitor, which is converted to a pulse density modulation by an integrated ASIC. The XY sensing element is a differential capacitor fabricated in single crystal silicon with a high aspect ratio thereby offering excellent performance in sensitivity and linearity.

The sensing element is enclosed in a hermetic wafer-level package using wafer to wafer bonding. This allows it to be assembled in different types of packaging including low cost over-molded plastic packages.

Dies are fully probed and inspected and can be shipped in waffle pack.



FEATURES

- Excellent accuracy over 2g range
- Good temperature performance
- Low cost design
- Capacitive, high performance
- 100% factory tested
- High volume manufacturing
- Patented process

THE MAIN FIELD OF APPLICATIONS

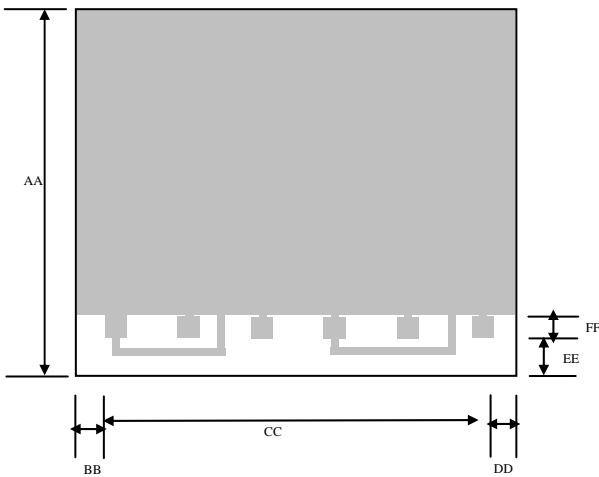
- Acceleration Measurement
- Vibration measurement
- Inclination Measurement

MTX2-02G

Dual Axis Accelerometer – Low g

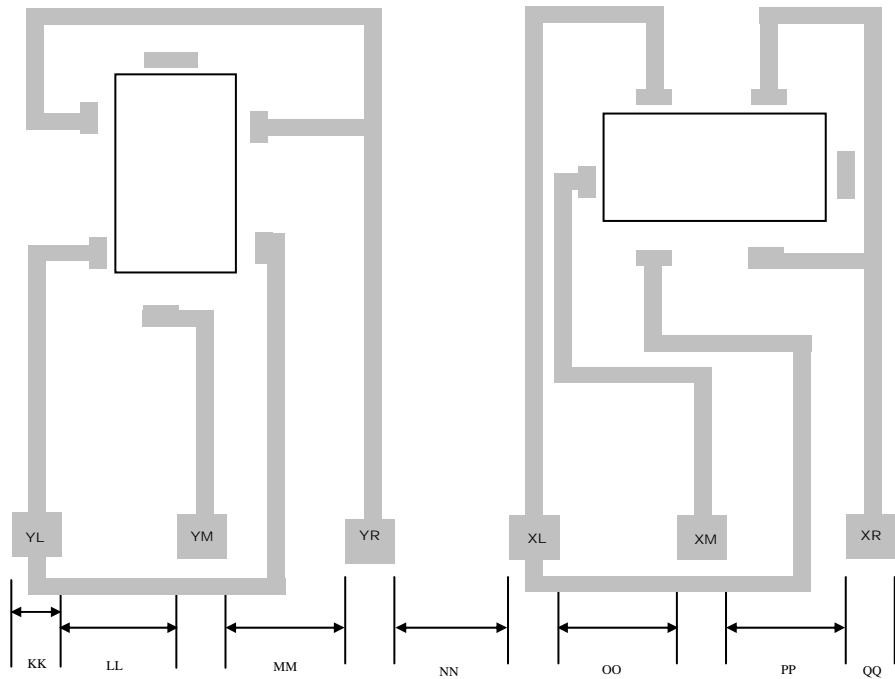
DIMENSIONS

Plan View

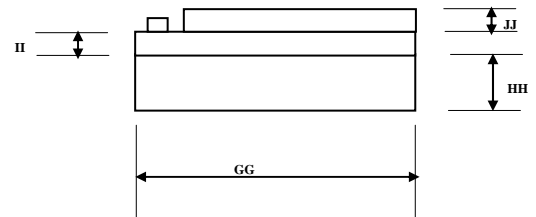


Dim	Typical
AA	3688
BB	630
CC	1790
DD	550
EE	510
FF	370
KK	200
LL	358
MM	358
NN	358
OO	358
PP	358
QQ	200

Plan View (w/o silicon cap)



Side view



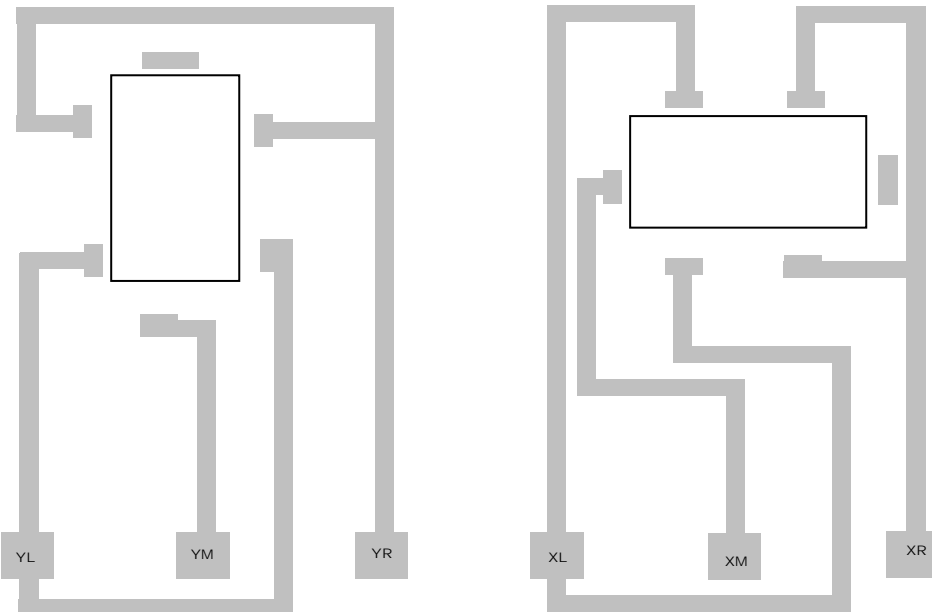
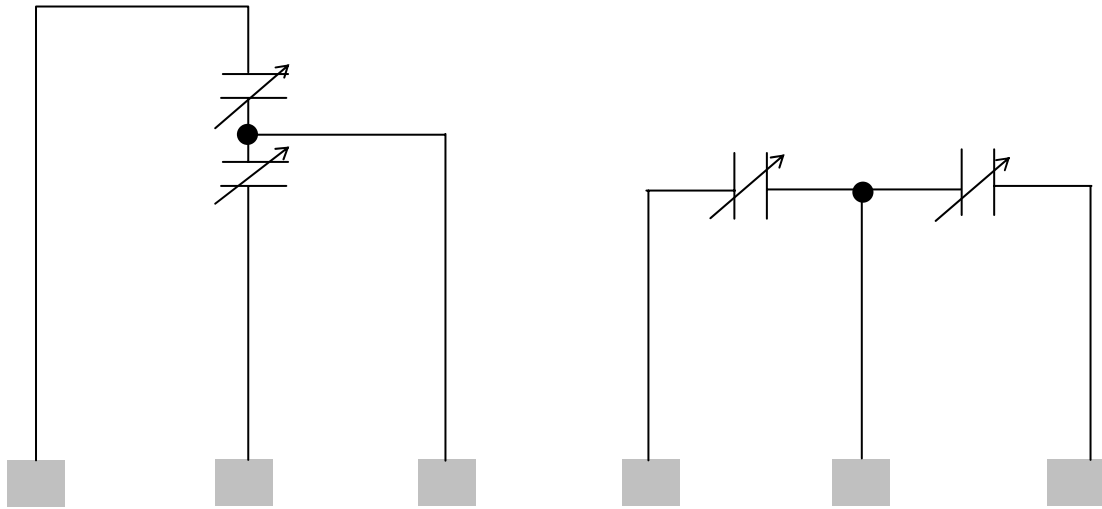
Dim	Typical
GG	4170
HH (glass substrate)	500
II (silicon device wafer)	30
JJ (silicon cap wafer)	200

All units in um.

MTX2-02G

Dual Axis Accelerometer – Low g

ELECTRICAL AND DIE LAYOUT



Pad	Description
XL	X axis left capacitance (fixed electrode)
XR	X axis right capacitance (fixed electrode)
YL	Y axis left capacitance (fixed electrode)
YR	Y axis right capacitance (fixed electrode)
M	Common electrode for applying voltage bias (moving electrode)

MTX2-02G**Dual Axis Accelerometer – Low g****TECHNICAL DATA**

Parameter	Min	Typical	Max	Unit
Operating Temperature Range	-40	-	+85	°C
Storage Temperature Range	-40	-	125	°C
Measuring Range	-2	-	+2	g
Probe voltage	-	1	-	V
Leakage current			5	nA
Nominal Capacitance @ 0V	2	4	6	pF
Capacitance change @1V	100	350	600	fF