



Quartz Wafers

Product Description:

Besides the applications as waveplates for optical polarization transformation, Quartz crystal is widely used in frequency control applications due to its fundamental properties including high purity, high Q, low thermal expansion, excellent stability, unique electrical characteristic and low cost. Especially, a device employing quartz as a resonator has risen rapidly due to the development in the mobile telecommunications fields. Precision Micro-Optics offers high quality quartz wafers in a very competitive pricing. The wafers are free from chips and scratches. The growth and lapping procedures assure the high quality and the high yield. A variety of wafers are available with different cutting orientations, thickness as thin as 0.2mm and diameter up to 6 inches. Custom requirements are welcome upon request.

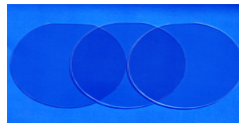


Figure 1: Quartz Wafers

Material Specification:

Q-Value (X10 ⁶)	3.0	3.0	2.4	2.4
Etch Channel Density (/cm ²)	≤ 10	≤ 30	≤ 100	≤ 100
Inclusions Density	I	I	I	I or II

A typical SPEC for SAW grade double side polished 4 inch quartz wafer:

Diameter	100.0 ± 0.2mm
Cutting Orientation	ST, AT, X, Y, Z or others
Surface Quality	Double Side Polished
Thickness	200±50μm, 350±50μm, 500±50μm
LTV (5mmX5mm)	≤ 2.5μm
Bow	≤ ± 25μm
TTV	≤ 15μm
Wrap	≤ 35μm
PLTV	> 90% less than 1μm (5mmX5mm)
Edge Rounding	Compliant with SEMI M1.2 Standard
Primary/Secondary Flats	Compliant with SEMI M1.2 Standard
Primary Flat	32.5±2mm (perpendicular to X axis ± 3°)
Secondary Flat	Yes/No
Roughness	Ra ≤ 10Å (Polished Surface Only)
Grinding Surface	Per Customized Requirement
Contamination and Scratch	None