

## Wafers for Surface Acoustic Wave (SAW) Devices

 4" LiTaO<sub>3</sub> (LT) Wafers

Commodity	Czochralski ("CZ") grown Lithium Tantalate (single crystal, single domain, congruent composition)			
Orientation	42° rot. Y-cut ± 0.25°	38.8° rot. Y-cut ± 0.25°	36° rot. Y-cut ± 0.25°	X-cut ± 0.25°
Diameter	100.0mm ± 0.5mm	100.0mm ± 0.5mm	100.0mm ± 0.5mm	100.0mm ± 0.5mm
Orientation Flat	32mm ± 2mm perpendicular to X ± 0.25°	32mm ± 2mm perpendicular to X ± 0.25°	32mm ± 2mm perpendicular to X ± 0.25°	32mm ± 2mm parallel to Y-112.2° ± 0.25°
Second Flat	13mm ± 3mm CW 90° ± 0.5° from OF	13mm ± 3mm CW 105° ± 0.5° from OF	13mm ± 3mm CW 120° ± 0.5° from OF	13mm ± 3mm CW 150° ± 0.5° from OF
Thickness	350µm ± 30µm 500µm ± 30µm	350µm ± 30µm 500µm ± 30µm	350µm ± 30µm 500µm ± 30µm	350µm ± 30µm 500µm ± 30µm
Propagating Surface	"+" - side, Ra ≤ 7 Å	"+" - side, Ra ≤ 7 Å	"+" - side, Ra ≤ 7 Å	"+" - side, Ra ≤ 7 Å
Wafer Backside	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm	GC#1000 lapped & etched 0.2µm ≤ Ra ≤ 0.5µm
TTV	≤ 12µm			
LTV	≤ 1.5µm within an area of 5mm x 5mm			
PLTV	≥ 95% (3mm from edge excluded)			
Bow	-30µm ≤ bow ≤ +30µm			
Warp	≤ 60µm			
Curie Temperature	605°C ± 2°C			

Other specifications are available on request.

 Orientations of LiTaO<sub>3</sub> Wafers
