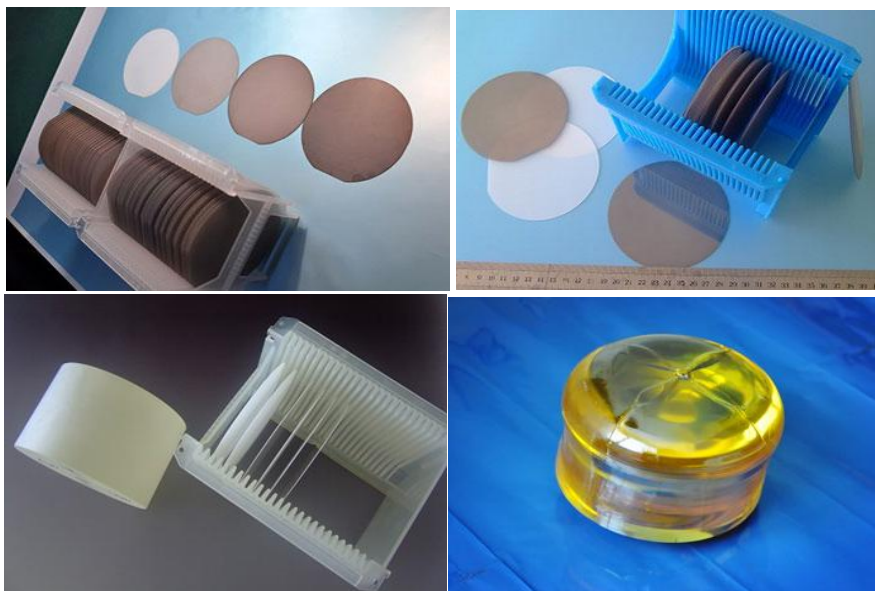


## Lithium Tantalate (LiTaO<sub>3</sub>) Crystals and Wafers

Hangzhou Shalom EO offers the **SAW grade lithium Tantalate (or LiTaO<sub>3</sub>) crystals and wafers**, advanced facilities are equipped for crystals growing, wafer cutting, wafer lapping, wafer polishing and wafer checking, all finished products are passed at Testing of curie Temp and QC inspections. The SAW grade LiTaO<sub>3</sub> crystals boules, blanks, wafer blanks and polished wafers are available upon customer's request.



Hangzhou Shalom EO supplies the LiTaO<sub>3</sub> crystals boules and SAW wafers with diameter 3", 4" and 6" , some typical SAW wafer modules are listed below, we have stocked wafers for some modules. And the customized boules or wafers are available upon customer's request.

**Table 1. LiTaO<sub>3</sub> crystals boules or blanks**

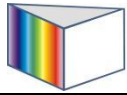
Growth orientation	X,Y,Z, Y36, Y42, X-112Y,Y128
Diameter	3", 4", 6" or customized
Length	<100mm
Polishing	Both end surfaces inspection polishing

Note: the customized boules are available upon request.

**Table 2. LiTaO<sub>3</sub> SAW wafers of 3", 4" and 6" diameter**

Orientation	Diameter	Thickness	Surface finish		Surface processing
			(+) plane	(-) plane	
Y-Cut	76.2mm 100.0mm 150.0mm	0.25mm 0.35mm 0.50mm	Mirror polished	GC1000# or GC2000#	White or Pyro-free
36°Y -Cut					
42°Y -Cut					
48°Y -Cut					
128°Y -Cut					
X-112°Y -Cut					

Note: The customized wafers are available upon request.



**LiTaO3 Crystals Specifications**

LiTaO3 Crystals Specifications	
Crystals Orientations	X,Y,Z, Y36, Y42,Y48,X112 etc.
Orientation Fluctuation	±0.30°
Diameter	2", 3", 4", 6" and customized
Length	50~80mm
Curie Temp	605±3°C
Orientation of First Reference Flat	As required ±0.2 0
Length of First Reference Flat	32±2 mm (4 " ),22±2 mm (3 " ) inspection polished.
Second Reference Flat	Available if required, the length shall be 12±3 mm (4 " ),10±3mm(3 " )
Appearance	Free of crack, pore, inclusion

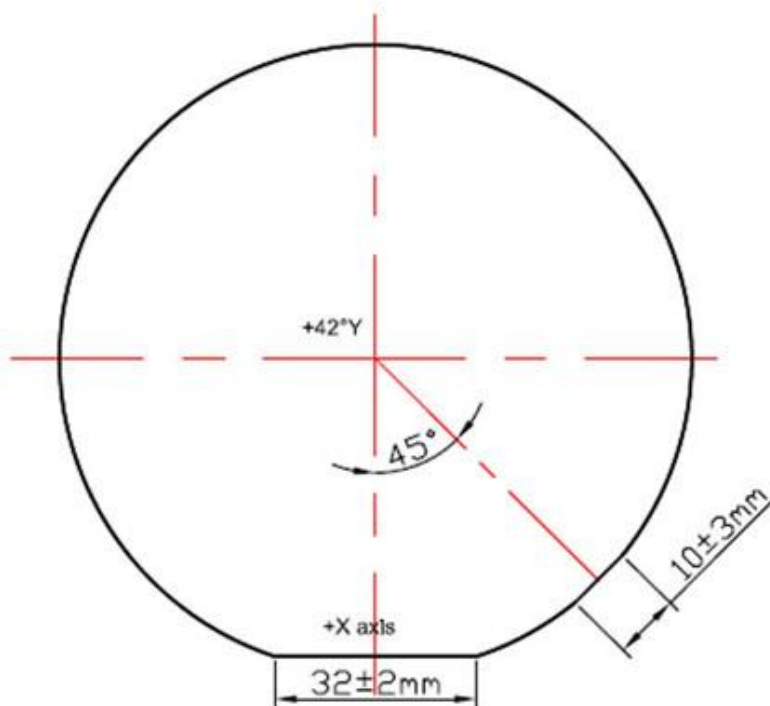
Note: The boules, blanks, polished wafers are available.

**Specifications for 3"/4" LT wafers**

Specifications for 3"/4" LT wafers			
Wafer Size	3"	4"	6"
Diameter(mm)	76.2mm	100mm	150mm
Tolerance (±mm)	0.25	0.5	0.5
Primary reference flat (mm)	22mm or customized	32.5mm or customized	57.5mm or customized
LTV (5x5mm) (µm)	<2	<2	<2
TTV (µm)	<8	<10	<20
Bow (µm)	±20	±25	±40
Warp(µm)	≤30	≤40	≤50
PLTV (%) (5x5mm)	≥90%	≥90%	≥90%
Cutting Angle	X,Y,Z, Y36, Y42,Y48,X112 etc.		
Orientation Flat	All available		
Surface Type	Single side polished/Double sides polished		
Polished side Ra (nm)	≤1		
Back Side Criteria (µm)	General is 0.2-0.5 or as customized		
Edge Rounding	Compliant with SEMI M1.2 Standard/refer to IEC62276		
Optical doped	Fe/Zn/MgO ect. For optical grade LT wafers		
Appearance	Contamination: None		
	Particles Φ>0.3µm: ≤30		
	Saw Marks, striations: None		
	Scratches: None		
	Cracks, crowsfeet, Saw marks, strains: None		

Drawing example

**4" LiTaO<sub>3</sub>42°Y-cut Wafer for SAW Components**



直径	Diameter	100.0mm±0.2mm
基准面	Orientation Flat (OF)	32.0mm±2.0mm
第二参考面	Second Refer. Flat (RF)	10.0mm±3.0mm
厚度	Thickness	500um ± 20um
边缘倒角	Edge bevel	Edge rounding