SPECIFICATION
Langasite Wafer (for SAW application)

1. Material quality:

Formula	$La_3Ga_5SiO_{14}$
Single Crystal,	
Crystal Class	Trigonal
Space Group	32
Density	5,74 g/cm^3
Eatch channel density	ECD<300 pcs/cm^2
None	Grain boundary in the material, cracks, pits in the surface

2. Wafer parameters

2.1. Orientation:

Cut	yxlt/50°/25°
+X-axis	Parallel to surface, ±10'
+X'-axis	(+X-25°) ± 10'
Reference Flat	⊥ to + X'-axis, ±15'
Secondary Flat	⊥ to – X-axis, ±15'

2.2. Size:

Diameter	76,2 mm ±0,1 mm
Thickness	500 µm +10 / -20 µm
Reference Flat	23 mm ± 1mm
Secondary Flat	10 mm ± 1 mm
TTV*	≤ 10 µm
BOW*	≤ 40 µm
LTV*	≤ 2 µm for length 13,6 mm
Edge	a = 100 µm
	b = 400 µm

3. Surfaces:

Front side	polished, Ra ≤ 0.7 nm
Back side	grinded, Ra ≤ 0.2 µm

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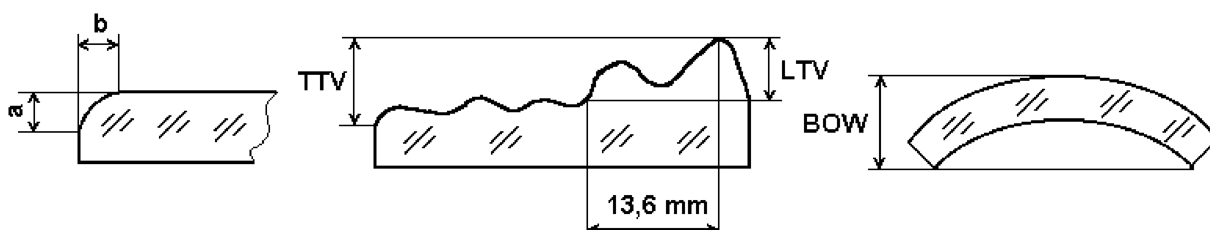
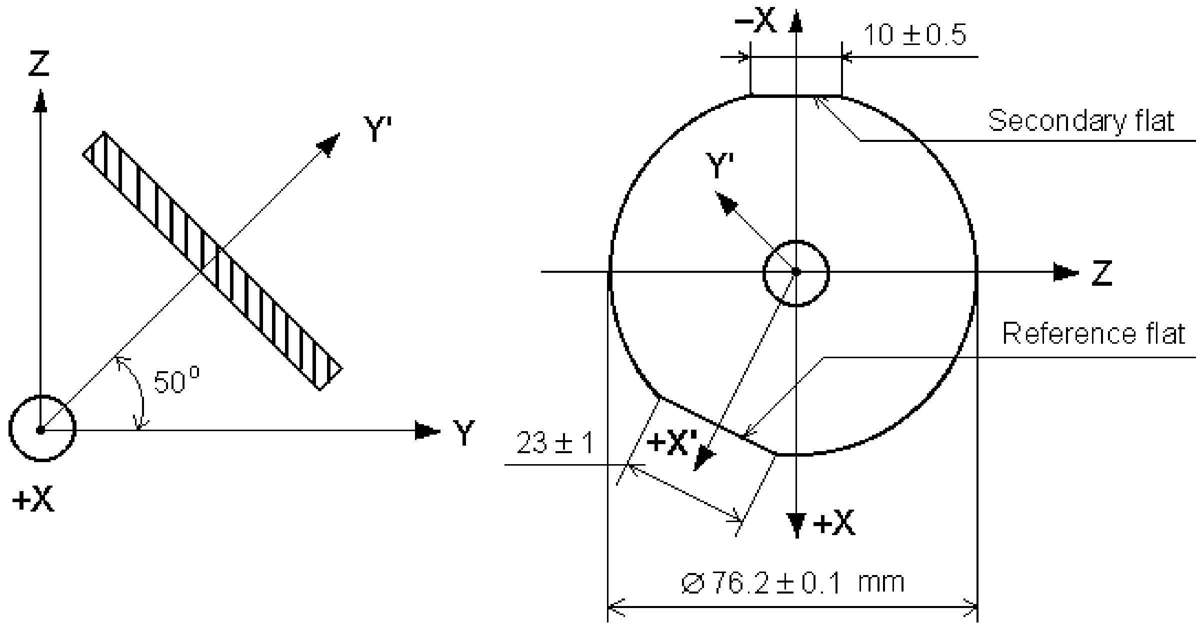
* TTV – the variation of the thickness over the wafer
* LTV – the variation of the thickness over the length 13,6 mm
* BOW – twist or bend of the wafer



Langasite wafer,
$La_3Ga_5SiO_{14}$, cut yxlt/50°/25°



Langasite wafer, $La_3Ga_5SiO_{14}$, cut yxlt/50°/25°
SAW device orientation