

Notes:

1.0 Orientations

1.1 Wafer surface is normal to a direction  $127.85^\circ \pm 0.25^\circ$  rotated from  $\langle +Y \rangle$  through  $\langle +Z \rangle$  about the  $\langle X \rangle$  axis.

1.2 Flats

1.2.1 Primary flat is normal to  $\langle +X \rangle \pm 0.25^\circ$ .

1.2.2 Secondary flat is  $90^\circ \pm 1^\circ$  clockwise from the primary flat when viewing the polished face  $\langle +Z / -Y \rangle$ .

2.0 Edge

2.1 All edges rounded with  $R0.27 \pm 0.08\text{mm}$ .

2.2 No chips greater than 0.5mm in penetration and 1.0mm in length.

3.0 Surfaces

3.1 Side 1  $\langle +Z / -Y \rangle$  face

Polished 10-5 scratch-dig with 1mm edge exclusion. No pits or scratches visible with reflected light and unaided eye.

3.2 Side 2  $\langle +Y / -Z \rangle$  face

Ground,  $Ra\ 0.5\mu\text{m} - 0.7\mu\text{m}$ .

4.0 Flatness

4.1 Warp  $< 50\mu\text{m}$ .

4.2 TTV  $< 25\mu\text{m}$ .

5.0 Material

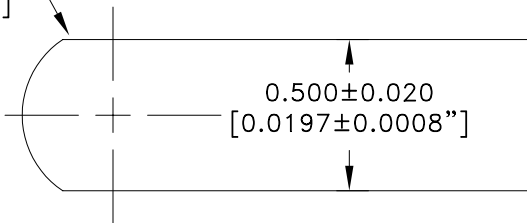
Internal optical transmission through the wafer at 500nm shall be  $>1\%$  and  $<12\%$ .

6.0 Test Data

Supply test data sheet 97-02471-02.

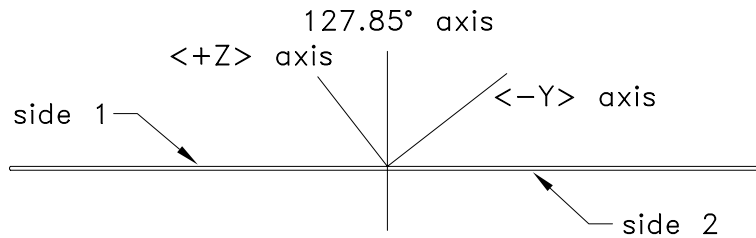
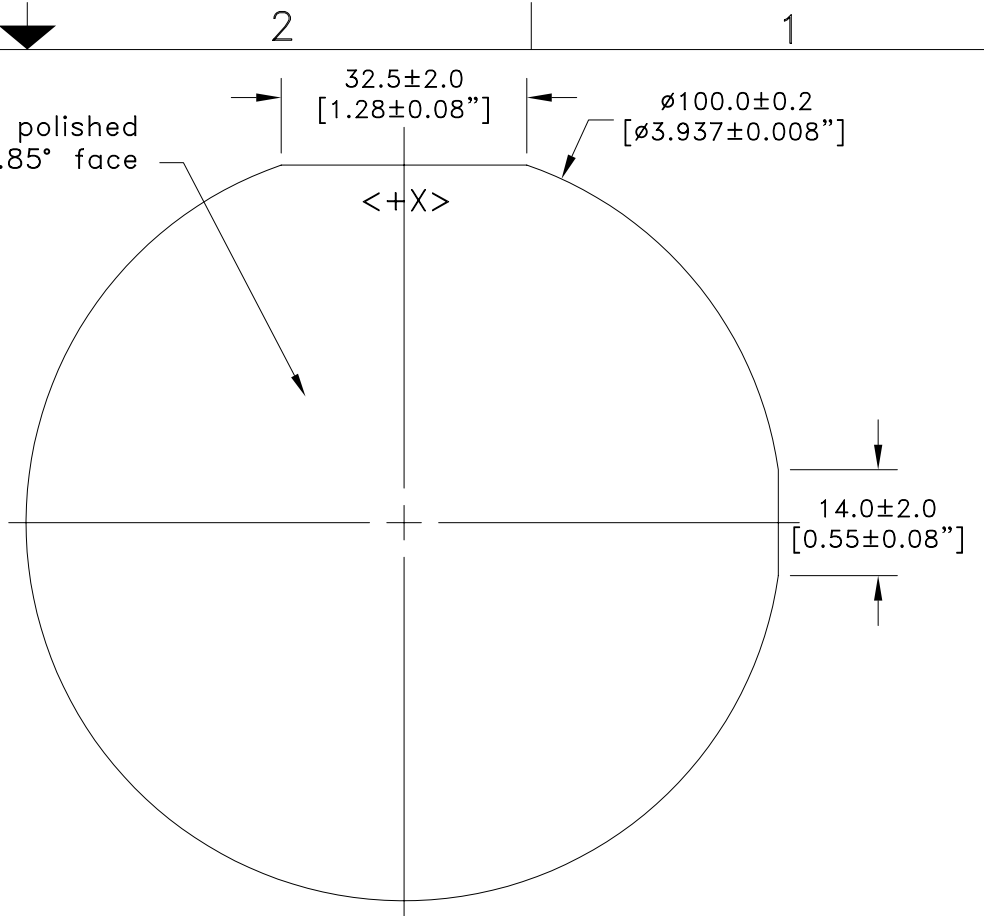
**For Reference Only**

$R0.27 \pm 0.08$   
[ $R0.012 \pm 0.003$ "]




Wafer Edge Detail, 40X

side 1 polished  
 $127.85^\circ$  face



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Material: <b>Lithium Niobate</b>	DR. G. Scholz	10/08/03	 <b>Crystal Technology, Inc.</b> An EPCOS Company
Unless otherwise specified, dimensions in mm	CHK.		
Tolerances			APPD.
Inches	Millimeters	Wafer Code:	
.X ± 0.1	X ± 0.5	Title: LNBK 100øx0.5mm, 128° Po/Gr +X FLT	
.XX ± 0.01	.X ± 0.25		
.XXX ± 0.005	.XX ± 0.1		
.XXXX ± 0.0020	.XXX ± 0.05		
Angles ± 0.5°			Customer Approval:
DO NOT SCALE DRAWING			Size: A
			Dwg. No: 97-02471-01
			Rev: A
			Scale: 1:1
			Sheet 1 of 1