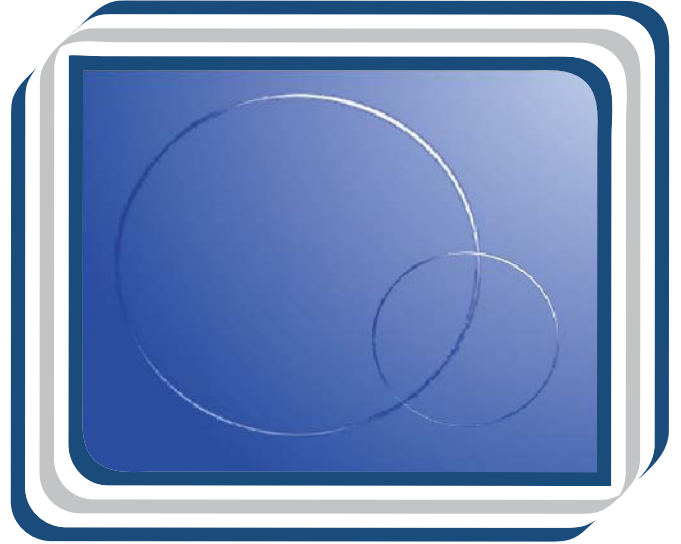


# QUARTZ WAFER

## FEATURES

- ▶ Dimensional Replica of Standard Silicon Wafers
- ▶ Ultra-Parallel
- ▶ Super Fine Surface Finish
- ▶ High Transmission



## APPLICATIONS

HOYA offers Quartz Wafers with Standard and Ultra-Parallel surfaces. These wafers are used for:

- ▶ Biotech Arrays
- ▶ Photomasks
- ▶ Sensors
- ▶ Telecom

## DIMENSIONS

Product Code	Diameter ( $\pm 0.3\text{mm}$ )	Thickness ( $\pm 0.05\text{mm}$ )	Ori-Flat ( $\pm 2.5\text{mm}$ )
4 W 55	100.0	0.525	32.5
5 W 65	125.0	0.625	42.5
6 W 675	150.0	0.675	57.5



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# PHYSICAL SPECIFICATIONS

Standard Products:			Specifications
▶ Inclusion	>	3∞m	None
▶ Scratch	>	1∞m	None
▶ Slick	>	3∞m	None
▶ Pit	>	1-4∞m	0.05 pcs/cm <sup>2</sup>
Ultra-Parallel Products:			Specifications
▶ Inclusion	>	3∞m	None
▶ Scratch	>	20∞m	None
▶ Slick	>	30∞m	None
▶ Pit	>	10-30∞m	0.05 pcs/cm <sup>2</sup>
▶ Total Thickness Variation			< 3∞m
▶ Local Thickness Variation (20mm sq.)			< 0.5∞m

# GLASS CHARACTERISTICS

Physical Properties	Unit	Value
▶ Thermal CTE (50-200°C)	$\pm \times 10^{-7}$	5.0
▶ Annealing Point	°C	1,120
Optical Properties	Unit	Value
▶ Refractive Index ( $n_d$ )		1.46
Chemical Properties	Unit	Value
▶ Wt.loss DI water	100 °C, 1 hour %	0.000
▶ Wt.loss 1/100N HNO <sup>3</sup>	100 °C, 1 hour %	0.000
▶ Wt.loss 5% NaOH	80 °C, 1 hour %	0.17
Mechanical Properties	Unit	Value
▶ Specific Gravity		2.20
▶ Young's Modulus	Kg/mm <sup>2</sup>	7,413
▶ Sheer Modulus	Kg/mm <sup>2</sup>	3,170
▶ Poisson's Ratio		0.18
▶ Knoop Hardness	Kg/mm <sup>2</sup>	615
▶ Lapping Hardness		210
Electrical Properties	Unit	Value
▶ Surface Resistivity	&!	$1 \times 10^{19}$
▶ Bulk	&!cm	$1 \times 10^{18}$

Specifications subject to change without notice.



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