Indium Arsenide

Epitaxy Ready Polished Wafers

Wafer Technology offers single crystals that are grown in a high pressure liquid encapsulated Czochralski process using at least 99.9999% (6N) pure Indium and Arsenic in pure fused silica crucibles.

MECHANICAL SPECIFICATIONS

Indium Arsenide can be supplied as ingot sections or as-cut, etched or polished wafers. All slices are individually laser scribed with ingot and slice identity to ensure perfect traceability.

ORIENTATION SPECIFICATIONS

Surface orientations are offered to an accuracy of +/- 0.05 degrees using a triple axis X-Ray diffractometer system. Substrates can also be supplied with very precise misorientations in any direction from the growth plane. Higher index substrates of the type (n,1,1) where n = 1,2,3,4,5,6 etc and orientations such as (110) are also available. We also offer wafers with cleaved flats.

SURFACE SPECIFICATIONS

All wafers are offered with high quality epitaxy-ready finishing. Surfaces are characterised by in-house, advanced optical metrology techniques which include Surfscan haze and particle monitoring, spectroscopic ellipsometry and grazing-incidence interferometry.

PACKAGING

Polished Wafers

Coin-style wafer shipper, individually sealed in two outer bags in inert atmosphere. Cassette shipments are available on request.

As-cut Wafers

Cassette shipment. *(Glassine bag available on request).*

‘Process Trial’ wafers

Coin-style wafer shipper, individually sealed in one outer bag.

If you do not see the specification you require, please call for details on +44 (0)1908 210444 or email sales@wafertech.co.uk

Wafer Specifications

Diameter Slices	2"	3"
Orientation	(100) ± 0.1º	(100) ± 0.1º
Diameter (mm)	50.5 ± 0.5	76.2 ± 0.4
Flat Option	EJ	EJ
Flat Tolerance	± 0.1°	± 0.1°
Major Flat Length (mm)	16 ± 2	22 ± 2
Minor Flat Length (mm)	8 ± 1	11 ± 1
Thickness (µm)	500 ± 25	625 ± 25

Electrical and Dopant Specifications

Dopant	Type	Carrier Concentration cm^{-3}	Mobility cm^{2} V^{-1} s^{-1}	E.P.D. cm^{-2}
Undoped	n-type	(1-3) x 10^{16}	≥23000	2" ≤15,000 3" ≤50,000
Low Sulphur	n-type	(4-8) x 10^{16}	25000-15000	
High Sulphur	n-type	(1-3) x 10^{18}	12000-7000	
Low Zinc	p-type	(1-3) x 10^{17}	350-200	
High Zinc	p-type	(1-3) x 10^{18}	250-100	

Tighter electrical ranges are available on request.

Flatness Specifications

Wafer Form		2"	3"
Polish/Etched or Polish/Polish	TTV (µm)	<12	<15
	Bow (µm)	<12	<15
	Warp (µm)	<12	<15

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