

# GaSb

## Gallium Antimonide (GaSb) Crystal Substrate



### DESCRIPTION

Gallium antimonide (GaSb) is a semiconducting compound of gallium and antimony of the III-V family. It has a lattice constant of about 0.61 nm. GaSb can be used for Infrared detectors, infrared LEDs, infrared lasers and transistors, and thermophotovoltaic systems.

GaSb as a substrate material can be used for the production of certain infrared lasers and detectors of optical fiber transmission. GaSb is also foreseen with a lattice restriction mobility greater than GaAs, so that it has a potential application in the production of microwave devices.

### FEATURE

- A great lattice restriction mobility
- The lattice constants are matched with III- IV materials

### APPLICATION

- Infrared detectors
- Infrared LEDs and lasers
- Thermophotovoltaic systems
- Microwave devices
- Photo-communication



## PARAMETER

### Main Parameters of GaSb crystal substrates and wafers

Single crystal	Dopant	Conductivity type	Carrier concentration (cm <sup>-3</sup> )	Mobility(cm <sup>2</sup> /V·s)	Dislocation density(cm <sup>-2</sup> )
GaSb	undoped, intrinsic	P	(1-2)×10 <sup>17</sup>	600-700	<1×10 <sup>4</sup>
GaSb	Zn	P	(5-100)×10 <sup>17</sup>	200-500	<1×10 <sup>4</sup>
GaSb	Te	N	(1-20)×10 <sup>17</sup>	2000-3500	<1×10 <sup>4</sup>

### GaSb Wafer Specification

Orientation	<100> / <111> ±0.5°
Standard dimension	20x20x0.5mm, 10x10x0.5mm, 10x5x0.5mm Φ2"x0.5mm, Φ3"x0.6mm, Φ4"x0.8mm Or others upon customer's requirements
Primary Orientation flat	16mm(Φ2"), 22mm(Φ3"),
Second Orientation flat	32.5mm(Φ4")8mm(Φ2"), 11mm(Φ3"), 16mm(Φ4")
Surface roughness	Ra ≤5A (0.5nm)
Polishing	Single side Polished or Double side polished
TTV / Bow /Warp	TTV <10μm Bow <10μm Warp <15μm
Special specification	We can customize specific specification upon

