



Indium arsenide InAs :

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InAsSb/In-AsPSb, InNAsSb and other heterojunction materials can be grown with InAs single crystal as the substrate, and infrared light-emitting devices with a wavelength of 2-14 μm can be produced. AlGaSb superlattice structure materials can also be epitaxially grown with InAs single crystal substrate, and the production Mid-infrared quantum cascade lasers. These infrared devices have good application prospects in the fields of gas monitoring and low-loss optical fiber communication .

In addition, InAs single crystal has high electron mobility and is an ideal material for making Hall devices. As a single crystal substrate, InAs material needs to have low dislocation density, good lattice integrity, suitable electrical parameters and high uniformity .

The main growth method of InAs single crystal material is the traditional liquid seal Czochralski technology (LEC).

Product parameters:

single crystal	doping	conductivity type	Carrier concentration cm^{-3}	Mobility (cm^2/Vs)	Dislocation density (cm^{-2})	standard substrate
InAs	Intrinsic	N	5×10^{16}	$\approx 2 \times 10^4$	$< 5 \times 10^4$	$\Phi 2'' \times 0.5\text{mm}$ $\Phi 3'' \times 0.5\text{mm}$
InAs	sn	N	$(5-20) \times 10^{17}$	> 2000	$< 5 \times 10^4$	$\Phi 2'' \times 0.5\text{mm}$ $\Phi 3'' \times 0.5\text{mm}$
InAs	Zn	P	$(1-20) \times 10^{17}$	100-300	$< 5 \times 10^4$	$\Phi 2'' \times 0.5\text{mm}$ $\Phi 3'' \times 0.5\text{mm}$
InAs	S	N	$(1-10) \times 10^{17}$	> 2000	$< 5 \times 10^4$	$\Phi 2'' \times 0.5\text{mm}$ $\Phi 3'' \times 0.5\text{mm}$
Dimensions (mm)			Dia50.8x0.5mm, 10x10x0.5mm, 10x5x0.5mm can be customized for special substrates			
Surface roughness			Ra: < 1nm			
polishing			single or double sided			
Package			Class 100 clean bag, Class 1000 ultra-clean room			