



**InP indium phosphide :**

As one of the most important compound semiconductor materials, InP indium phosphide single crystal material is the key material for the production of InP-based laser diodes (LDs), light-emitting diodes (LEDs) and photodetectors in optical communications. These devices realize optical fiber communications. Information transmission, dissemination, amplification, reception and other functions.

InP is also very suitable for high-frequency devices, such as high electron mobility transistor (HEMT) and heterojunction bipolar transistor (HBT), etc. Due to its superior characteristics, it is used in optical fiber communication, microwave, millimeter wave, anti- Radiation solar cells, heterojunction transistors and many other high-tech fields have a wide range of applications .

The main growth methods of InP single crystal materials include traditional liquid seal Czochralski technology (LEC), improved LEC technology, gas pressure controlled Czochralski technology (VCZ/PC-LEC)/vertical gradient solidification technology (VGF)/vertical bridge Man Technology (VB), etc.

**Product parameters:**

single	doping	conductivity	Carrier	Mobility	Dislocation	standard
InP	Intrinsic	N	$(0.4-2) \times 10^{16}$	$(3.5-4) \times 10^3$	$\leq 5 \times 10^4$	$\Phi 2'' \times 0.35\text{mm}$
InP	S	N	$(0.8-3) \times 10^{18}$ $(4-6) \times 10^{18}$	$(2.0-2.4) \times 10^3$ $(1.2-1.6) \times 10^3$	$\leq 3 \times 10^4$ $\leq 2 \times 10^3$	$\Phi 2'' \times 0.35\text{mm}$ $\Phi 3'' \times 0.35\text{mm}$
InP	Zn	P	$(0.6-2) \times 10^{18}$	70-90	$\leq 2 \times 10^4$	$\Phi 2'' \times 0.35\text{mm}$
InP	Te	N	$10^7-10^8$	$\geq 2000$	$\leq 3 \times 10^4$	$\Phi 2'' \times 0.35\text{mm}$
Dimensions (mm)			Dia50.8x0.35mm, 10x10x0.35mm, 10x5x0.35mm can be customized			
structure			Cubic, a=5.869 A			
crystal direction			<100>			
melting point			1600°C			
density			4.79 g/ cm <sup>3</sup>			
Bandgap width			1.344			
Surface roughness			Ra: ≤ 1nm			
polishing			single or double sided			
Package			Class 100 clean bag, Class 1000 ultra-clean room			