



Gallium oxide Ga<sub>2</sub>O<sub>3</sub> :

**Gallium oxide Ga<sub>2</sub>O<sub>3</sub>**

Gallium oxide is an ultra-wide bandgap semiconductor with a large bandgap (4.8 eV), high critical breakdown field strength (8MV/cm), conduction characteristics almost 10 times that of silicon carbide, and material growth costs lower than The third-generation semiconductor has received more and more attention and research interest in the fields of ultraviolet light communication and high-frequency power devices. In the future, gallium oxide is very likely to become the leader in high-power and high-voltage applications.

**main feature:**

It is a direct wide-bandgap semiconductor material with a large breakdown electric field, and it is easy to obtain large-sized crystals .

**Typical application :**

Laser devices, accelerator and radar systems, sensors, image sensors for visualization, antennas, filters and on-chip circuits.

In addition, it is widely used in optical technology - it can be used to make deformable mirrors, BK7 lenses, video lens controllers and high-performance imaging systems.

**Product parameters:**

Lattice constant	a=12.23Å, b=3.04Å, c=5.80Å, β=103.7°
crystal direction	<100>,<010>
Moh's hardness	9 (mohs)
density	5.88 (g/cm <sup>3</sup> )
melting point	1725°C
doping	Si , Fe
Conductivity	n-type , semi-insulating
Planes	(001)
dislocation density	<1×10 <sup>5</sup> cm <sup>-2</sup>
reference edge	[010] Direction
crystal plane deviation	<±1°
size	D 50.8 mm±0.3 mm , or customized
thickness	0.65 mm ± 0.02 mm
polishing	Ra < 1nm
Package	Class 100 packaging bag