

2 inch C-plane n-type high-electron-concentration AMMONO-GaN substrate.  
The substrate is sliced from a mono-crystalline bulk material grown by ammonothermal method.

**TECHNICAL SPECIFICATION**

DESCRIPTION	UNIT	VALUE
<b>General specification</b>		
Orientation		(0001) C plane
Thickness	μm	≥ 400
Dimension(s)	mm	Ø50,4 (±0,6)
Primary Flat (PF)	mm	16 (±1)
Secondary Flat (SF)	mm	8 (±1)
Bow	μm	≤ 20
Total Thickness Variation (TTV)	μm	≤ 60

**Structural specification**

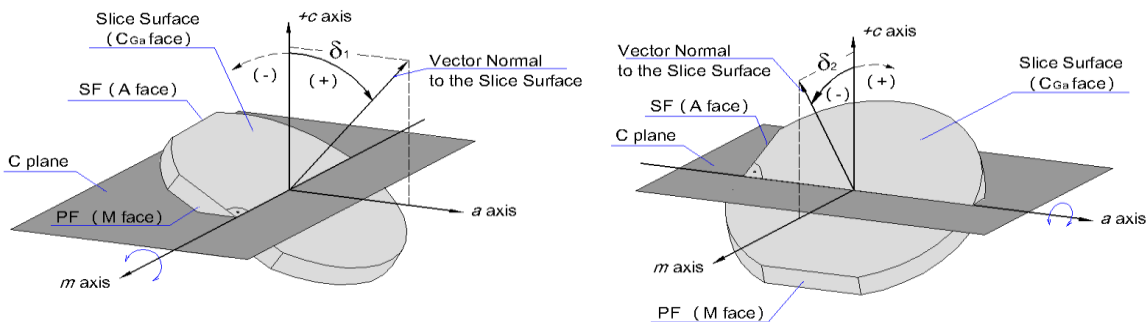
Etch Pit Density (EPD)	cm <sup>-2</sup>	< 5 x 10 <sup>4</sup>
FWHM of X-ray rocking curve, epi-ready surface at 100 μm x 100 μm slit	arcsec	~ 20
Macrodefects		More than 8 cracks per substrate, each within a circle of 3 mm diameter, or at least one crack longer than 3 mm.

**Electrical specification**

Type of conductivity		n type
Carrier concentration	cm <sup>-3</sup>	~ 10 <sup>19</sup>
Resistivity	Ω*cm	10 <sup>-3</sup> - 10 <sup>-2</sup>
Carrier mobility	cm <sup>2</sup> /V*s	~ 150

**MISORIENTATION**

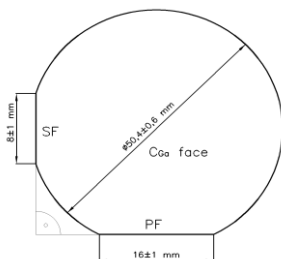
(measured in the center of the substrate)



Off M face		deg	0 (±0,25)
C face	angle δ <sub>1</sub>	deg	0 (±0,20)
	angle δ <sub>2</sub>	deg	±0,3 (±0,20)

**SURFACE PREPARATION**

Front side		Epi-ready polished (RMS < 0,5 nm)
Back side		Roughly polished

**SUBSTRATE SHAPE**


Note: The information given above may be subject to change at any time without notice. This leaflet is not an offer within the meaning of sales or commercial law. The AMMONO-GaN substrates are offered for sale under Ammono's General Terms and Conditions.