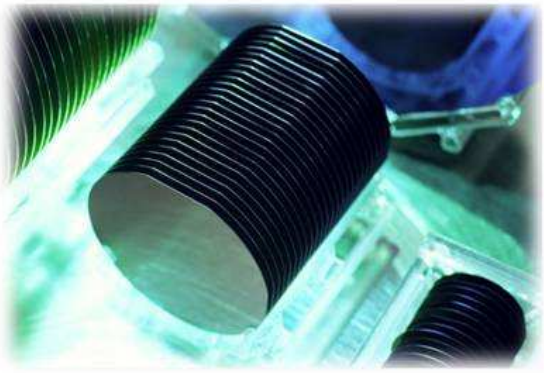
Gallium Nitride (GaN) Template



Marco-Defect Density <10/cm²
Substrate Diameter 3“
Thickness 100μm

GaN templates refer to a thin layer of single crystalline GaN, typically with thickness less Than 100 microns, epitaxial grown on a foreign substrate, e.g. sapphire. Comparing with free standing GaN substrate, GaN template is only an alternative solution to device makers and its technical merit is limited. Upon high volume and low cost production, however, GaN template can replace sapphire in LED manufacturing, enhancing up to 50% capacity of downstream MOCVD reactors. Furthermore, GaN template usually has lower dislocation density than MOCVD GaN grown on sapphire. This is a favorable factor for UV devices as it is more sensitive to dislocation density than blue LED does.

Gallium Nitride (GaN) Template Specifications			
Thickness (μm)	100	Substrate Diameter	3”
Off-Cut Angle (Degree)	0.2	GaN Template Line	Unintentionally doping
Marcodefect Density:	<10/cm-2	Thickness Variation (±μm)	2.5
Carrier concentration (cm^{-3})	<2E+17	Resistivity (Ω·cm)	0.5
FWHM of (102) XRD arcsec	<300	Dislocation density	3E+7 cm-2
Surface finishing	as grown	Substrates	sapphire
Bow (μm)	500	Package (cell cassette)	25

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