PAM-XIAMEN
Xiamen Powerway Advanced Material Co.,Ltd.

PAM-XIAMEN specializes in GaN-based ultra high brightness blue and green light emitting diodes (LED) and laser diodes (LD). Also we offer GaN Free-standing wafer and GaN Templates(GaN-on-Sapphire).

GaN Wafer

Product Specifications

XIAMEN POWERWAY ADVANCED MATERIAL CO.- NO.99,HULI DEVELOPING ZONE, XIAMEN, 361000,CHINA
TEL:+86 (0)592 5601404 -FAX:+86 (0)592 5745822
E-MAIL:SALES@QUALITYMATERIAL.NET
WWW.QUALITYMATERIAL.NET

GaN on Al2O3-2” epi wafer Specification

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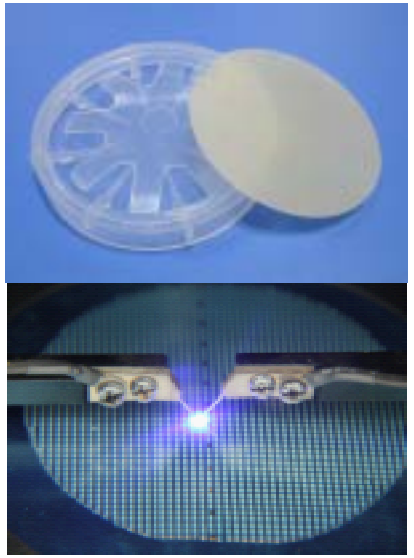
White： 445～460 nm
Blue： 465～475 nm
Green：510～530 nm



1. Growth Technique - MOCVD
2.Diameter: 50.8mm
3.Substrate material: Patterned Sapphire Substrate(Al2O3)
4.Pattern size: 3X2X1.5μm
5.Structure:

Structure layers	Thickness(μm)
p-GaN	0.2
p-AlGaN	0.03
InGaN/GaN(active area)	0.2
n-GaN	2.5
u- GaN	2
Al2O3 (Substrate)	430

6.Parameters to make chips:

Item	Color	Chip Size	Characteristics	Appearance	Application
PAM1023A01	Blue	10mil x 23mil	Vf = 2.8~3.4V Po = 18~25mW Wd = 450~460nm		Lighting LCD backlight Mobile appliances Consumer electronic
PAM454501	Blue	45mil x 45mil	Vf = 2.8~3.4V Po = 250~300mW Wd = 450~460nm		General lighting LCD backlight Outdoor display

*If you need to know more detail information of Blue LED Chip, please contact with our sales departments

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2" GaN Template

Item	PAM-GaNT-N	PAM-GaNT-SI
Conduction Type	N-type	Semi-insulating
Size	2"(50mm) dia.	
Thickness	20um,30um	30um,90um
Orientation	C-axis(0001)+/-1^{O}	
Resistivity(300K)	<0.05Ω·cm	>1x10^{6}Ω·cm
Dislocation Density	<1x10^{8}cm-2	
Substrate Structure	Thick GaN on Sapphire(0001)	
Surface Finish	Double Side Polished,epi-ready	
Usable Area	≥ 90 %	

2"GaN Free-standing Wafer

Item	PAM-GaN50-N	PAM-GaN50-SI
Conduction Type	N-type	Semi-insulating
Size	2"(50mm) dia.	
Thickness	230+/-20um, 280+/-20um	
Orientation	C-axis(0001)+/-1^{O}	
Resistivity(300K)	<0.05Ω·cm	>1x10^{6}Ω·cm
Dislocation Density	<5x10^{6}cm-2	
Marco Defect Density	<5cm-2	
Surface Finish	Double Side Polished,RMS<2nm,N-Face RMS<1μm,epi-ready	
Usable Area	≥ 90 %	

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10mm*10.5mm,GaN Free-standing Wafer

Item	PAM-GaN50-N	PAM-GaN50-SI
Conduction Type	N-type	Semi-insulating
Size	10mmx10.5mm	
Thickness	230+/-20um, 280+/-20um	
Orientation	C-axis(0001)+/-1^{O}	
Resistivity(300K)	<0.05Ω·cm	>1x10^{6}Ω·cm
Dislocation Density	<5x10^{6}cm-2	
Marco Defect Density	<5cm-2 or 5-10cm-2	<5cm-2
Surface Finish	Double Side Polished,RMS<2nm,N-Face RMS<1μm,epi-ready	
Usable Area	≥ 90 %	