

PAM-XIAMEN specializes in GaN-based ultra high brightness blue and green light emitting diodes (LED) and laser diodes (LD). With multiple advanced commercial MOCVD systems as well as LED chip facilities, the company produces world-class quality LEDs and LDs.

LED Epiwafer 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

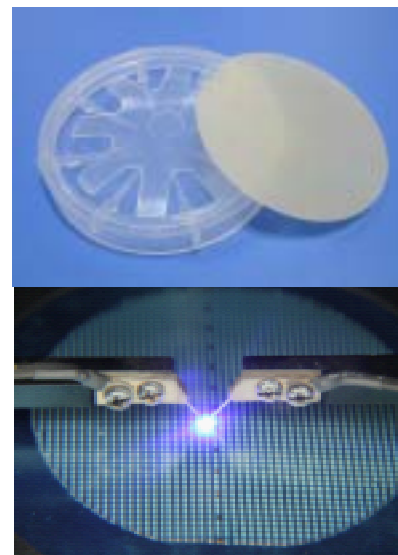
White : 445 ~ 460 nm

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-AlGaIn	0.03
InGaIn/GaN(active area)	0.2
n-GaN	2.5
u- GaIn	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

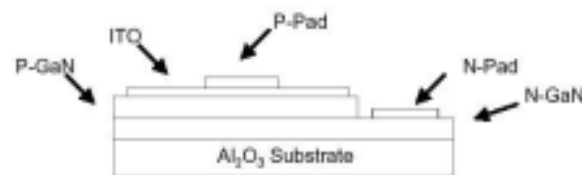
Blue LED Chip,PAM1023A01,size:10mil×23mil

*****Feature:**

- High Luminous Intensity
- 100% probing test
- High anti-ESD level
- Good reliability



Top View



Side View

*****Application:**

- Lighting
- LCD back light
- Mobile appliances
- Consumer electronic

Mechanical Specification

Description	Dimension
Chip Size	250 * 575 μm
Chip thickness	87 ± 5 μm
N-pad	87 ± 5 μm
P-pad	87 ± 5 μm
Electrodes spacing	15 μm
Electrodes material	Au
Pad thickness	1 μm

Absolute Maximum Ratings

Item	Symbol	Maximum Rating
DC forward current	I_f	30 mA
Pulse forward	I_{fp}	100mA
Reverse voltage	V_r	5V
Operating	T_{opr}	-30~+85
Storage	T_{stg}	-40~+100

Electro-optical Characteristics (Ta=25°C)

Test Parameter	Condition	Min	Type	Max
Dominant	20mA	450nm	-	460nm
Radiant power(P_0)	20mA	18mW	-	25mW
Forward voltage(V_f)	20mA	2.8V	-	3.4V
Reverse voltage(V_r)	10μA	15V	-	35V
Reverse current(I_r)	5V	0	-	1μA
Electrostatic discharge	HBM	2000V	-	-

Brightness:180-240mcd