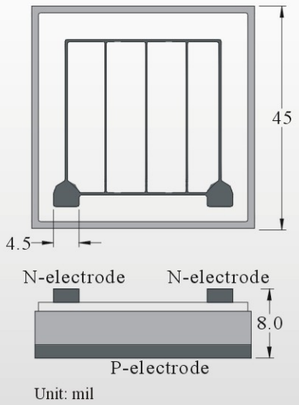


Unit: mil

## LPIBB45A

LatticePower's silicon-substrate LEDs combine highly efficient epitaxial GaN with proprietary silicon-substrate chip technology. The chips feature vertical structure, lower forward voltage and a lambertian radiation pattern. The silicon-substrate LEDs are die-attachable with silver epoxy, solder paste, as well as flux eutectic method. These LEDs can maximize light extraction and efficiency with wide applications in indoor/outdoor lighting, portable illumination, and flash light.

LatticePower

Product Introduction

# LPIBB45A

## FEATURES:

1. Ag reflection electrode, better current dispersion, overdrive
2. Better heat dissipation than sapphire
3. Lambertian radiation pattern, easier secondary distribution of light
4. Less wire, high reliability
5. Silver epoxy, solder paste or flux eutectic attachable
6. Operates at 350-700mA

Chip Size: 45mil x 45mil
(1140±50μm x 1140±50μm)

Chip Thickness: 8mil(200±20μm)

Pad Size: 4.5mil(115±10μm)

Pad Metal:
P Electrode: Au, AuSn
N Electrode: Au

## APPLICATIONS:

1. Portable illumination
2. LCD backlighting
3. Indoor illumination
4. Outdoor illumination

## Maximum Ratings:

| | |
|---|---|
| **DC Forward Current** | 1000mA |
| **Peak Forward Current（1/10 duty cycle @1kHz）** | 1250mA |
| **LED Junction Temperature** | 125℃ |
| **Reverse Voltage** | 5V |
| **Operating Temperature Range** | -40 ℃ to +85℃ |
| **Storage Temperature Range** | 0 ℃ to +40℃ |

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Product Introduction

# LPIBB45A

## About LatticePower

LatticePower is a pioneer in development and manufacturing of high-power blue/white gallium nitride (GaN) light emitting diode (LED) on silicon. In a patent protected industry, LatticePower has developed a suite of patents and intellectual property that enable the manufacture of GaN-based LED on silicon, which dramatically lowers manufacturing costs. Through scientific discovery, technological innovation, and industrial manufacturing over many years, LatticePower has achieved mass production for high power LEDs based on sillicon substrate, which will enable the next generation of world class solid state lighting companies.

For more about LatticePower, please visit: www.latticepower.com


## Typical Electrical/Optical Characteristics:

| Parameters | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| **Forward Voltage** | Vf | If=350mA | 2.7 | 3.0 | 3.2 | V |
| **Reverse Current** | Ir | Vr=5V | --- | --- | 2 | μA |
| **Dominant Wavelength** | λd | If=350mA | 445 | --- | 475 | nm |
| **Spectra Half-width** | Δλ | If=350mA | --- | --- | 30 | nm |
| **Luminous Power** | Po | If=350mA | 380 | --- | 500 | mW |

## Parameters range:

| Po(mW) \ Wd(nm) | 447.5–450 | 450–452.5 | 452.5–455 | 455–457.5 | 457.5–460 | 460–462.5 |
|---|---|---|---|---|---|---|
| **480–500** | FBNU | GANU | GBNU | HANU | HBNU | IANU |
| **460–480** | FBMU | GAMU | GBMU | HAMU | HBMU | IAMU |
| **440–460** | FBLU | GALU | GBLU | HALU | HBLU | IALU |
| **420–440** | FBKU | GAKU | GBKU | HAKU | HBKU | IAKU |
| **400–420** | FBJU | GAJU | GBJU | HAJU | HBJU | IAJU |
| **380–400** | FBIU | GAIU | GBIU | HAIU | HBIU | IAIU |

**Notes:**

1. The Electrical/Optical characteristics are measured with LatticePower electro-optical equipment at (Ta=25℃) without an encapsulant.
2. GaN LED chip is an electrostatic sensitive product, so ESD protection during chip handling is recommended.
3. We welcome customer's enquiry for special requirements.
4. Maximum ratings are package-dependent.
5. For pointers on attention in encapsulation, please refer to《Application note for silicon substrate LED chip》.

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