

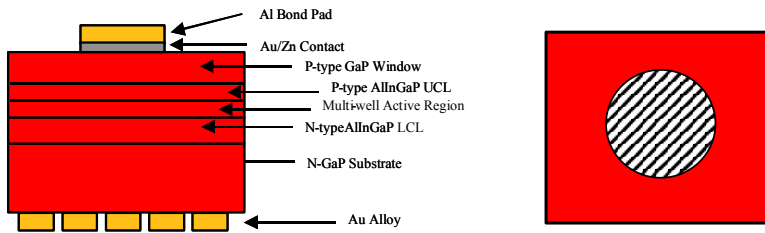
HWFR-B310 HWFR-B410 HWFR-B510

Lumileds P3 Series TS AllnGaP Chips

Technical Data DS31

P3 Series transparent substrate AllnGaP chips deliver high flux performance.

Outline Drawings



Optical Characteristics at T=25°C [See notes 1, 2, and 3]

| PART NUMBER | COLOR | DOMINANT WAVELENGTH @5mA (λD, nm) | | | INTENSITY @20mA (Iv, mcd) | | FLUX @20mA (lm/A) |
|----------------|------------|-----------------------------------|-------|------|---------------------------|------|-------------------|
| | | MIN. | TYP. | MAX. | MIN. | MAX. | TYP. |
| HWFR-B310 #101 | AMBER | 584 | - | 595 | 70 | 90 | - |
| HWFR-B310 #102 | AMBER | 584 | - | 595 | 90 | - | - |
| HWFR-B310 #112 | AMBER | 584 | 590.5 | 595 | 70, 60%MIN | >90 | 55 |
| HWFR-B410 #102 | RED/ORANGE | 612 | - | 625 | 100 | - | - |
| HWFR-B510 #101 | RED | 624 | - | 635 | 70 | 100 | - |
| HWFR-B510 #102 | RED | 624 | - | 635 | 100 | - | - |
| HWFR-B510 #112 | RED | 624 | 629 | 635 | 70, 60%MIN | >100 | 70 |

Electrical Characteristics at T=25°C [See notes 1 and 3]

| PART NUMBER | COLOR | REVERSE VOLTAGE @ 100μA (VBR, V) | FORWARD VOLTAGE @20mA (VF, V) | | |
|-------------|------------|----------------------------------|-------------------------------|------|------|
| | | MIN | MIN. | TYP. | MAX. |
| HWFR-B310 | AMBER | -6.0 | 2.0 | 2.35 | 2.6 |
| HWFR-B410 | RED/ORANGE | -6.0 | 2.0 | 2.25 | 2.6 |
| HWFR-B510 | RED | -6.0 | 2.0 | 2.25 | 2.6 |

Visual Inspection and Testing [See note 1]

| | |
|-------------------|--------|
| VISUAL INSPECTION | 100% |
| Vf & Vr TESTING | 100% |
| IV TESTING | SAMPLE |
| LAMBDA TESTING | SAMPLE |

Nominal Mechanical Specifications

| | |
|--------------------------------|-------------------|
| CHIP SIZE (MILS) | 8.6 X 8.6 |
| CHIP HEIGHT (MILS) | 10.5 +/- 1.5 MILS |
| JUNCTION AREA (SQ. MILS) | 74 |
| TOP METAL | AL/AU ZN |
| BACK METAL | AU/GE |
| CHIP PRESENTATION [SEE NOTE 4] | |

Benefits

- Fewer LEDs Required
- Lowers Lighting System Cost

Features

- High Luminous Flux
- Higher Forward Current Operation Capability

Typical Applications

- Signs/Signals
- Machine Vision
- Automotive Lighting
- Illumination

Notes:

1. Iv and lambda values are based on a 21 die sample. Vf, and Vr are 100% tested.
2. Flux measurements were made using 5mm LED lamp packages encapsulated with epoxy and are for information only.
3. Typical values given are the average values expected and are for information only.
4. Chips are mounted on 6 inch diameter photon rings utilizing 4 mil thick tape.

Company Information

Lumileds is a world-class supplier of Light Emitting Diodes (LEDs) producing billions of LEDs annually. Lumileds is a fully integrated supplier, producing core LED material in all three base colors (Red, Green, Blue) and White. Lumileds has R&D development centers in San Jose, California and Best, The Netherlands. Production capabilities in San Jose, California and Malaysia.

Lumileds is pioneering the high-flux LED technology and bridging the gap between solid-state LED technology and the lighting world. Lumileds is absolutely dedicated to bringing the best and brightest LED technology to enable new applications and markets in the Lighting world.

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