

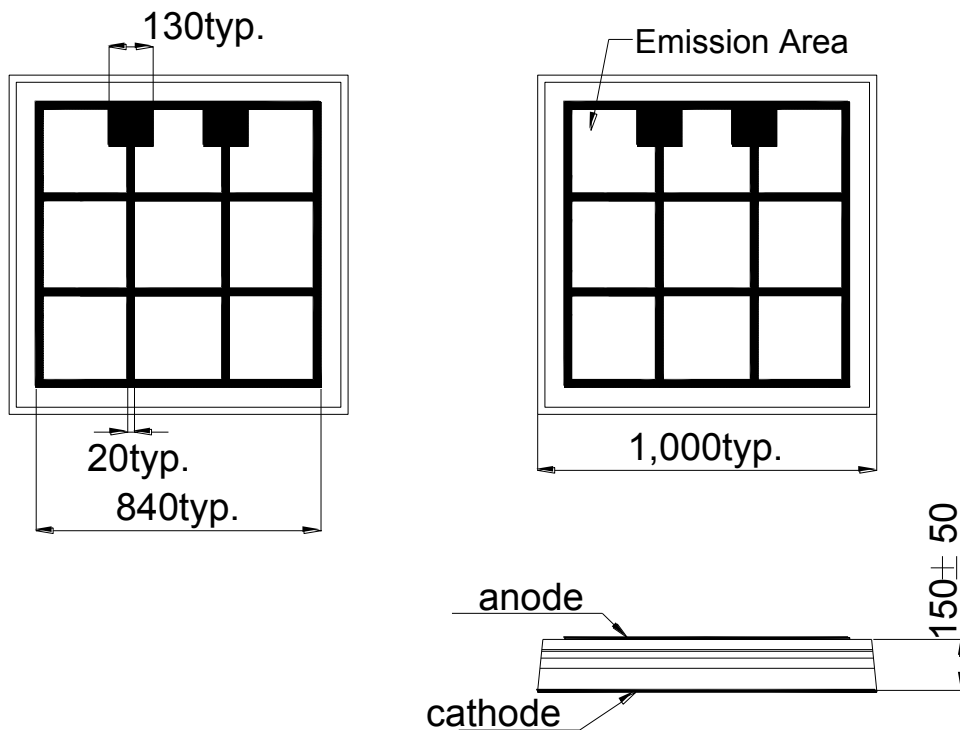
**CN810-100P**

PRELIMINARY

## AlGaAs Infrared LED Chip

## &lt;Specifications&gt;

- Material: AlGaAs
- Chip Size: 1000um x 1000um typ.
- Chip Thickness: 150um +/-50um
- P bonding pad: 130um x 130um typ.
- Bonding pad: Au alloy
- Structure: Refer to drawing



(Unit:mm)

**Absolute Maximum Ratings (Ta=25°C)**

| Item  | Symbol | Ratings   | Unit |
|---|--------|-----------|------|
| Forward Current                                     | IF     | 800       | mA   |
| Pulse Forward Current                               | IFP    | 2000      | mA   |
| Reverse Voltage                                     | VR     | 5         | V    |
| Junction Temperature                                | Tj     | 120       | °C   |
| Operating Temperature                               | Topr   | -40 ~ +85 | °C   |
| Storage Temperature on blue sheets                  | Tstg   | +5 ~ +30  | °C   |
| Storage Temperature on blue sheets (transportation) |        | -20 ~ +65 |      |

‡Pulse Forward Current Condition: Duty 1% and Pulse Width=10us.

‡Storage Temperature (On blue sheets): relative humidity is less than 70%.

**Optical and Electrical Characteristics (Ta=25°C)**

| Parameter            | Symbol                     | Min | Typ | Max | Unit | Test Condition     |
|----------------------|----------------------------|-----|-----|-----|------|--------------------|
| Forward Voltage      | VF <sup>(1)</sup>          |     | 1.8 |     | V    | IF=800mA<br>T=20ms |
|                      | VFP <sup>(2)</sup>         |     | 2.3 | 3.4 |      | IFP=2000mA         |
| Total Radiated Power | PO1 <sup>(1)</sup>         | 3.2 | 4.1 |     | mW   | IF=20mA            |
|                      | PO2 <sup>(1)</sup>         |     |     |     |      | IF=100mA           |
|                      | PO3 <sup>(3)</sup>         |     | 220 |     |      | IF=800mA<br>T=20ms |
|                      | Pop <sup>(3)</sup>         |     | 550 |     |      | IFP=2000mA         |
| Peak Wavelength      | $\lambda_p$ <sup>(1)</sup> | 800 |     | 820 | nm   | IF=20mA            |
| Half Width           | $\Delta\lambda$            |     | 40  |     | nm   | IF=800mA<br>T=20ms |
| Rise Time            | Tr <sup>(3)</sup>          |     | 25  |     | ns   | IF=800mA           |
| Fall Time            | Tf <sup>(3)</sup>          |     | 30  |     | ns   | IF=800mA           |

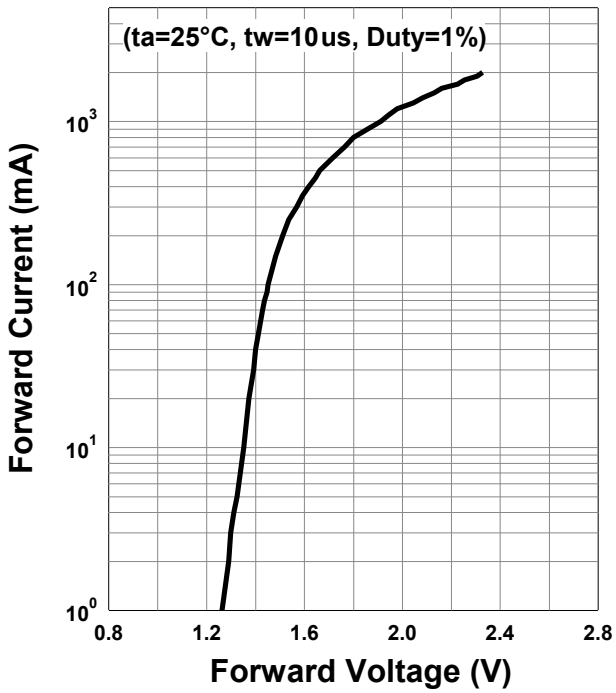
‡ Die shall be mounted on TO-18 gold header without resin coated. (Ta=25°C)

‡ Radiated Power is measured by S3584-08.

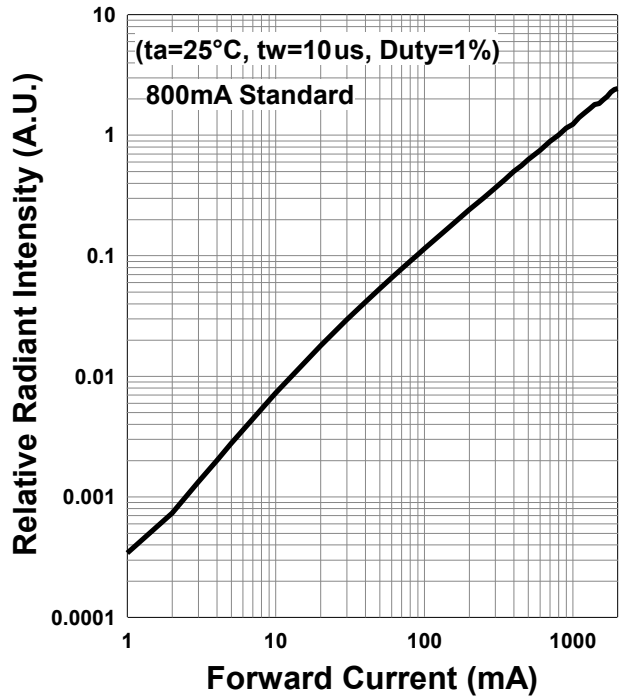
- (1) Based on 100% probing
- (2) 10pcs testing with 1 wafer
- (3) Reference data

Typical Characteristic Curves

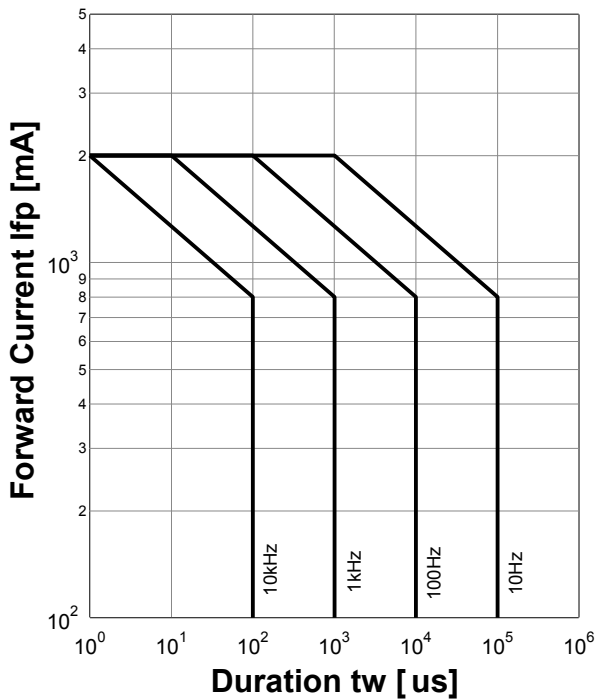
Forward Current - Forward Voltage



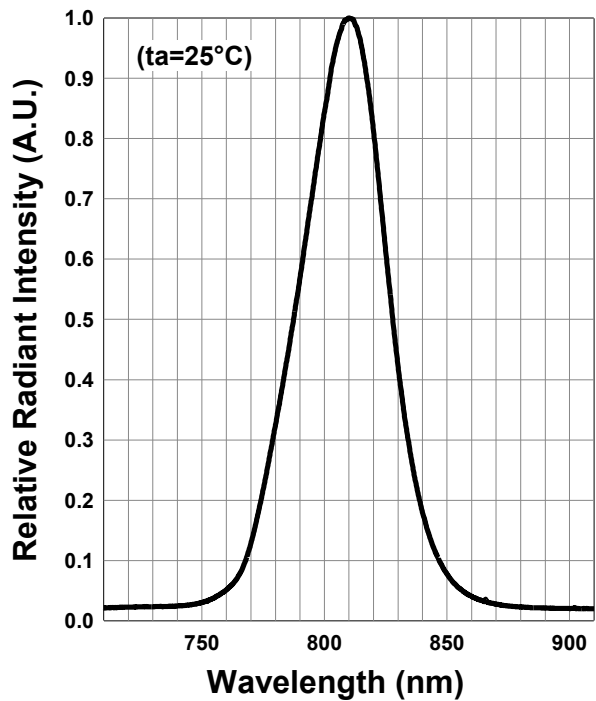
Relative Radiant Intensity - Forward Current

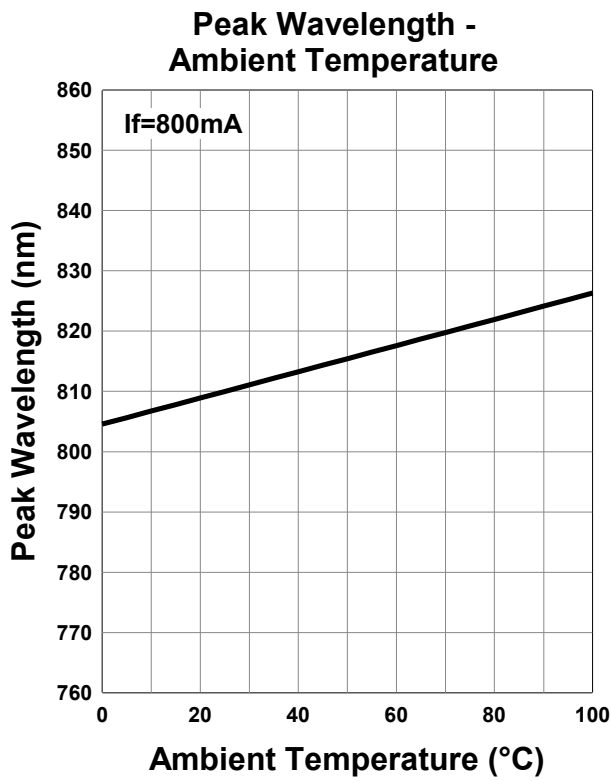
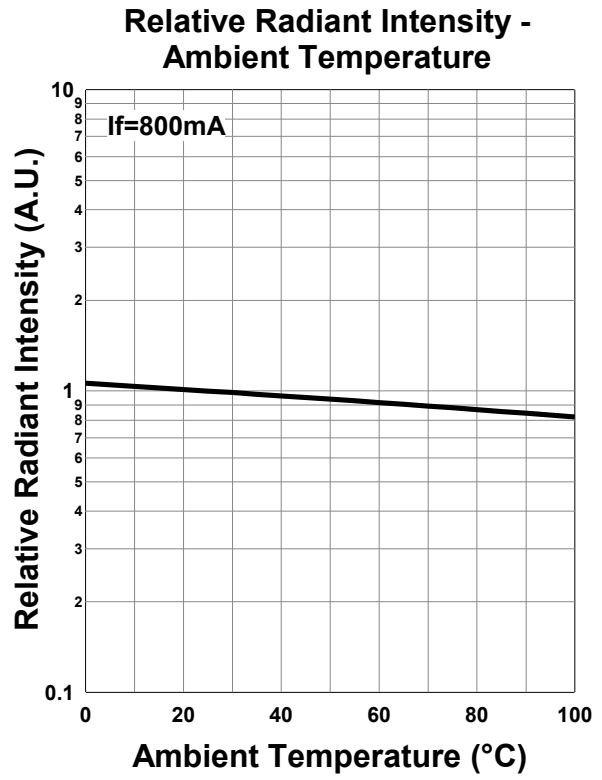
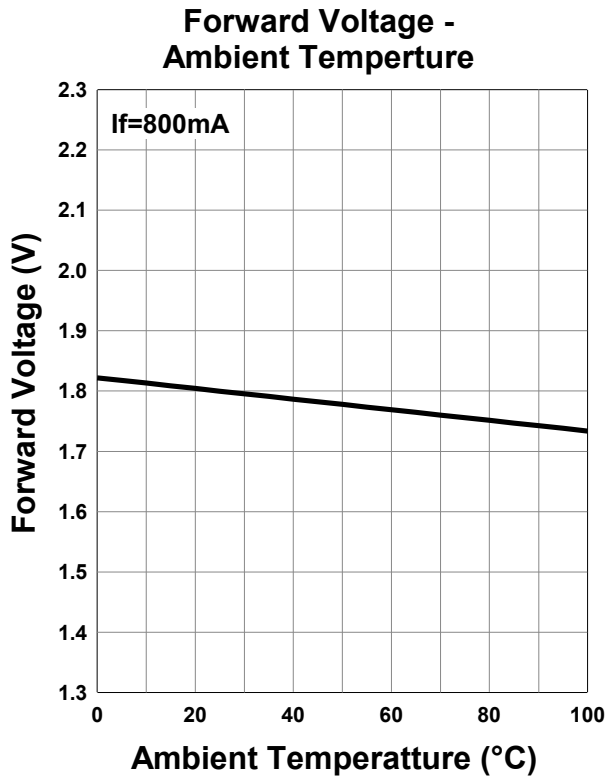


Forward Current - Pulse Duration



Relative Spectral Emission





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Product data and parameters in this catalog are typical values based on reasonably up-to-date measurements.

Product data and parameters may vary by user application and over time.

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