



Product Guide



D_1113F Series, Right Angle InGaN/SiC SMT LED

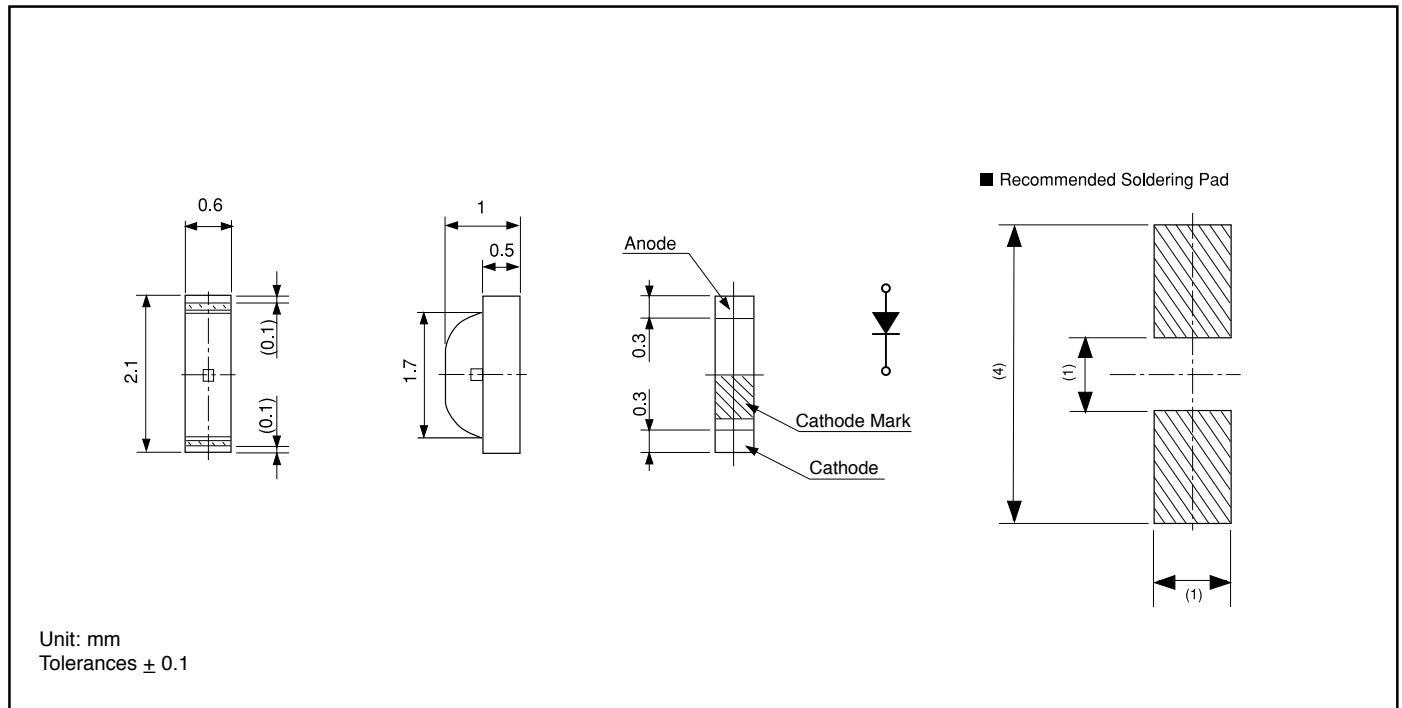
Features

- High brightness (InGaN/SiC) die material
- Available in green (525nm), bluish-green (505nm) and blue (470nm) colors
- Reflow and dip soldering compatible
- Wide 130 degree viewing angle
- 1000V minimum ESD protection

Applications

- Portable phone LCD edgelight

Outline Dimensions



Electro-Optical Characteristics

(Ta=25°C)

| Part No. | Material | Emitted Color | Lens Color | Luminous Intensity I_V | | | Wavelength | | | | Forward Voltage V_F | | | Reverse Current I_R | | Viewing Angle ($2\theta_{1/2}$) |
|----------|-----------|---------------|-------------|--------------------------|------|-------|--------------------------|------------------------------|--------------------------------------------------------|-------|-----------------------|------|-------|-----------------------|-------|--------------------------------------|
| | | | | MIN. | TYP. | I_F | Peak λ_p TYP. | Dominant λ_d TYP. | Spectral Line Half Width $\Delta\lambda$ TYP. | I_F | TYP. | MAX. | I_F | MAX. | V_R | |
| DG1113F | InGaN/SiC | Green | Milky White | 24 | 40 | 10 | 522 | 525 | 30 | 10 | 3.3 | 3.8 | 10 | 100 | 5 | 130° |
| DC1113F | InGaN/SiC | Bluish-Green | | 24 | 34 | 10 | 502 | 505 | 30 | 10 | 3.3 | 3.8 | 10 | 100 | 5 | |
| DB1113F | InGaN/SiC | Blue | | 8.5 | 14 | 10 | 467 | 470 | 26 | 10 | 3.3 | 3.8 | 10 | 100 | 5 | |
| Units | | | | mcd | | mA | nm | | | mA | V | | mA | μA | V | Deg. |

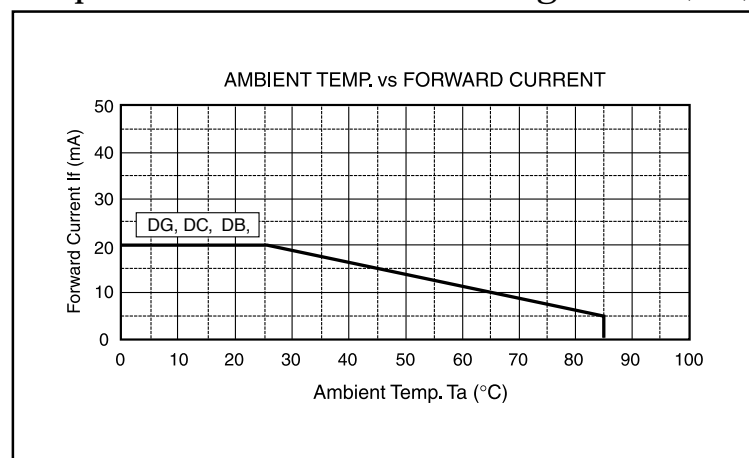
Absolute Maximum Ratings

(Ta=25°C)

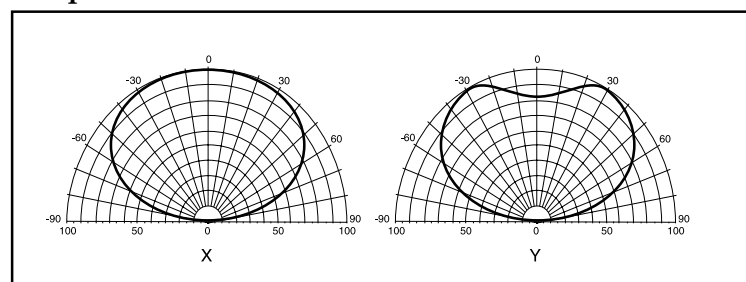
| Item | Symbol | Green | Bluish-Green | Blue | Units |
|-----------------------|-----------------|------------------------|--------------|------|-------|
| | | DG | DC | DB | |
| Power Dissipation | Pd | 76 | 76 | 76 | mW |
| Forward Current | I _F | 20 | 20 | 20 | mA |
| Peak Forward Current | I _{FM} | 48 | 48 | 48 | mA |
| Reverse Voltage | V _R | 5 | 5 | 5 | V |
| Operating Temperature | Topr | -40 to +85 | | | °C |
| Storage Temperature | Tstg | -40 to +100 | | | °C |
| Derating* | ΔI _F | 0.28 (DC) 0.69 (Pulse) | | | mA/°C |

* Ta=25°C, I_{FM} applies for the pulse width ≤ 1msec. and duty cycle ≤ 1/20.

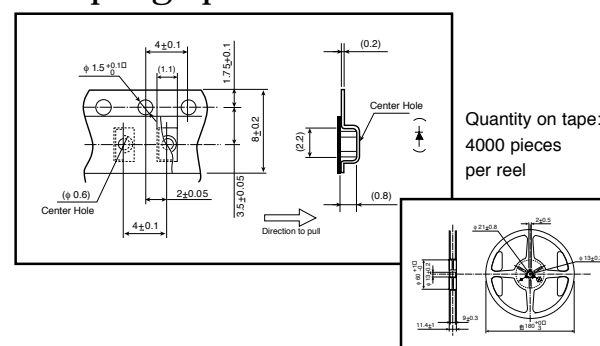
Operation Current Derating Chart (DC)



Spatial Distribution



Taping Specifications

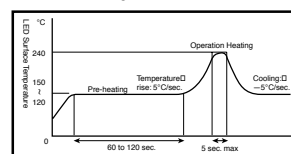


Precautions

Please follow these handling precautions to prevent damage to the chip and ensure its reliability.

1. Soldering conditions:

- **Soldering iron:** Temperature at tip of iron: 280°C max. (30W max.) Soldering time: 3 sec. max.
- **Dip soldering:** Preheating: 120 ~ 150°C max. (resin surface temp.) 60 ~ 120 sec. max. Bath temperature: 260°C max. Dipping Time: 5 sec. max.
- **Reflow Soldering:**



2. Cleaning:

- If cleaning is required, use the following solutions for less than 1 minute, at less than 40°C.
- Appropriate chemicals: Ethyl alcohol and isopropyl alcohol.
- Effect of ultrasonic cleaning on the LED resin body differs depending on such factors as the oscillator output, size of PCB and LED mounting method. The use of ultrasonic cleaning should be enforced at proper output after confirming there is no problem.

Product specifications subject to change without notice. PGD1113F-0301