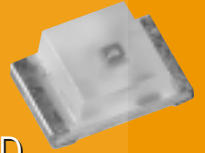




# Product Guide

D\_1112H Series, Thin Type InGaN/SiC SMT LED



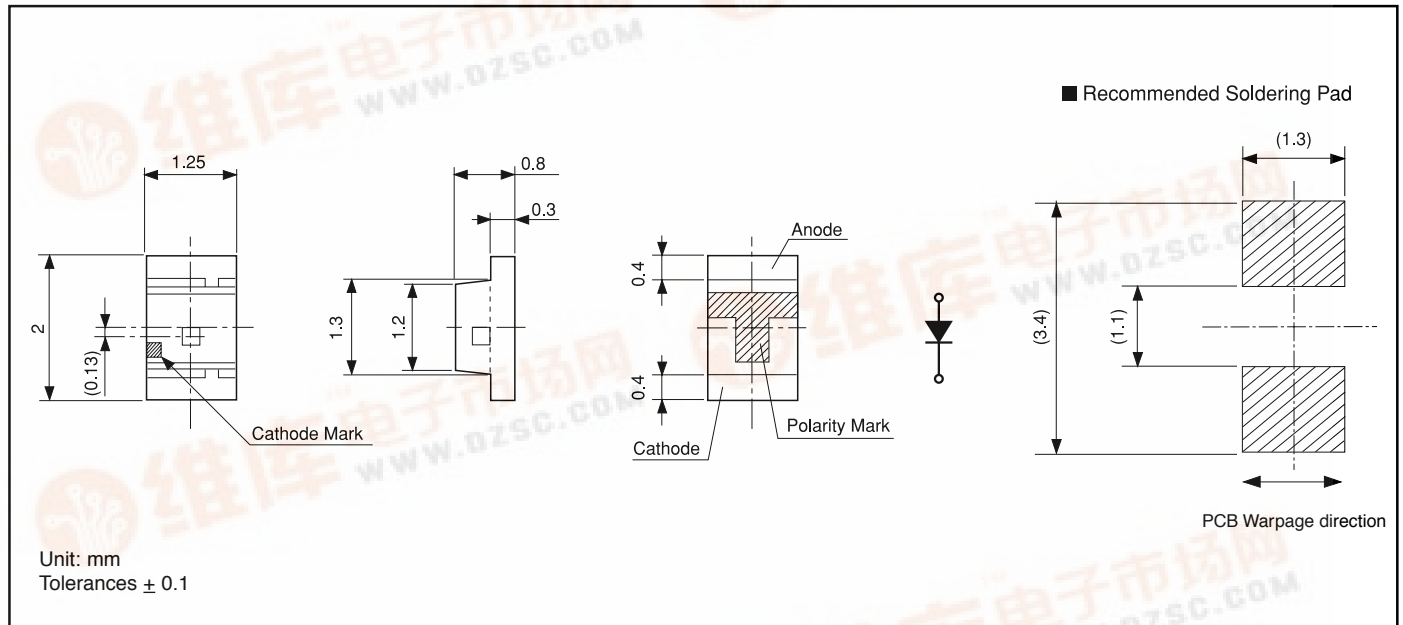
## Features

- High brightness (InGaN/SiC) die material
- Available in green (525nm), bluish-green (505nm) and blue (470nm) colors
- Wide 150 degree viewing angle
- Reflow and dip soldering compatible
- 1000V minimum ESD protection

## Applications

- Portable phone key pad backlight
- Various other backlight uses

## 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<br>(2 $\theta$ 1/2) |      |
|----------|-----------|---------------|-------------|--------------------------|------|-------|--------------------------|------------------------------|--|-------|-----------------------|------|-------|-----------------------|---------|-----------------------------------|------|
|          |           |               |             | MIN.                     | TYP. | $I_f$ | Peak $\lambda_p$<br>TYP. | Dominant $\lambda_d$<br>TYP. | Spectral Line Half Width $\Delta\lambda$<br>TYP. | $I_f$ | TYP.                  | MAX. | $I_f$ | MAX.                  | $V_R$   |                                   |      |
| DG1112H  | InGaN/SiC | Green         | Milky White | 24                       | 40   | 10    | 522                      | 525                          | 30   | 10    | 3.3                   | 3.8  | 10    | 100                   | 5       | 150°                              |      |
| DC1112H  | InGaN/SiC | Bluish-Green  |             | 24                       | 34   | 10    | 502                      | 505                          | 30   | 10    | 3.3                   | 3.8  | 10    | 100                   | 5       |                                   |      |
| DB1112H  | 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    |                       | $\mu$ A | V                                 | Deg. |



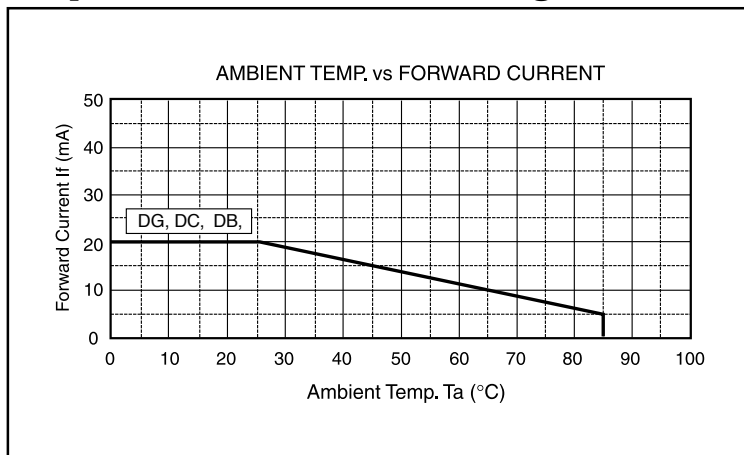
## Absolute Maximum Ratings

(Ta=25°C)

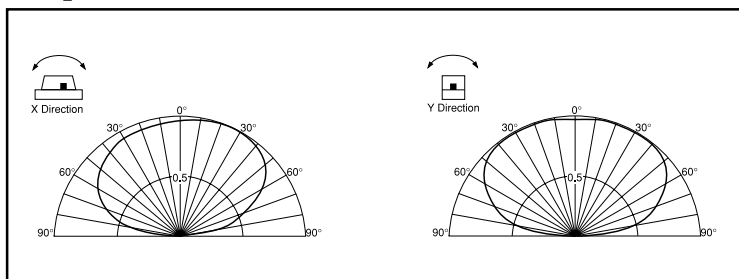
| Item                  | Symbol          | Green                  | Bluish-Green | Blue | Units |
|-----------------------|-----------------|------------------------|--------------|------|-------|
|                       |                 | DG                     | DC           | DB   |       |
| Power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

\* Ta=25°C, I<sub>FM</sub> applies for the pulse width ≤ 1msec. and duty cycle ≤ 1/20.

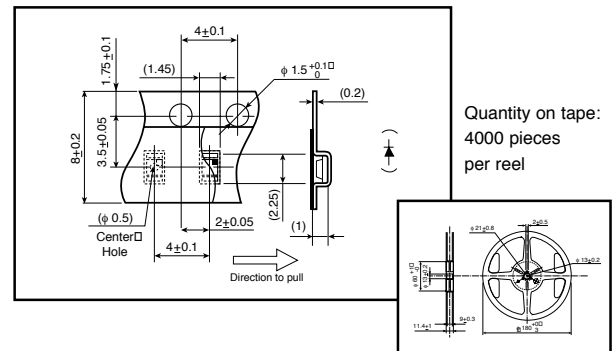
## Operation Current Derating Chart (DC)



## Spatial Distribution



## Taping Specifications

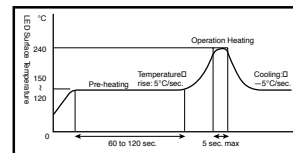


## Precautions

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. PGD1112H-0301