

> Mechanical Specification:

(1) Dimension

- Chip size: $233 \pm 40 \mu\text{m} \times 183 \pm 40 \mu\text{m}$
- Thickness: 4.3 mil ($110 \pm 10 \mu\text{m}$)
- P bonding pad: 3.0 mil ($75 \pm 10 \mu\text{m}$)
- N bonding pad: 2.8 mil ($70 \pm 10 \mu\text{m}$)

(2) Metallization

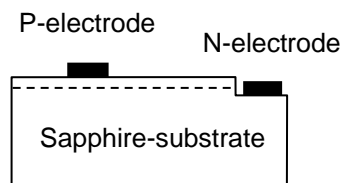
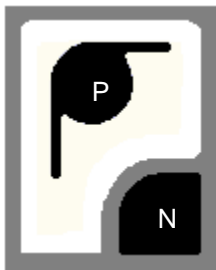
- Topside P electrode: Au alloy
- Topside N electrode: Au alloy

Features:

- High luminous intensity
- Long operation life
- 100% probing test
- Passivation layer on top

Applications:

- RGB display



> Electro-optical Characteristics at 25°C: ⁽¹⁾

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Forward Voltage	Vf1	If = 10μA	2.0	-	-	V	
	Vf2	If = 10mA	-	2.9	3.4	V	
Reverse Current	Ir	Vr = 5V	-	-	2.0	μA	
Dominant Wavelength ⁽²⁾	λd	If = 10mA 2nm / bin	458	-	474	nm	
Spectra Half-width	Δλ	If = 10mA	-	25	-	nm	
Luminous intensity ⁽³⁾	Iv	I18	If = 10mA λd=458-464nm	170	-	190	mcd
		I19		190	-	210	
		I20		210	-	230	
		I18	If = 10mA λd=464-474nm	170	-	190	
		I19		190	-	210	
		I20		210	-	230	
		I21		230	-	260	
		I22		260	-	290	
		I23		290	-	320	
		I24		320	-	350	

Note:

- (1) ESD protection during chip handling is recommended.
- (2) Basically, the wavelength span is 16nm; however, customers' special requirements are also welcome.
- (3) Luminous intensity is measured by EPSTAR's equipment on bare chips.

> Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 25°C	≤ 30	mA
Reverse Voltage	Vr	Ta = 25°C	≤ 5	V
Junction Temperature	Tj	-	≤ 115	°C
Storage Temperature	Tstg	Chip	-40 ~ +85	°C
		Chip-on-tape/storage	5 ~ 35	°C
		Chip-on-tape/transportation	-20 ~ +65	°C
Temperature during Packaging	-	-	280(<10sec)	°C

Note: Maximum ratings are package dependent. The above maximum ratings were determined using a Printed Circuit Board (PCB) without an encapsulant. Stresses in excess of the absolute maximum ratings such as forward current and junction temperature may cause damage to the LED.

> Characteristic Curves:

Fig.1 – Relative luminous Intensity vs. Forward Current

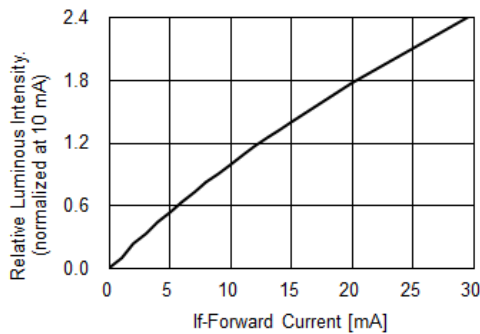


Fig.2 – Forward Current vs. Forward Voltage

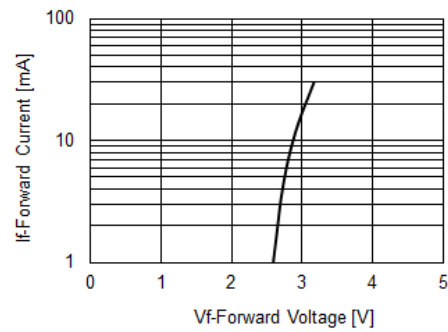


Fig.3 – Relative Intensity (@10mA) vs. Ambient Temperature

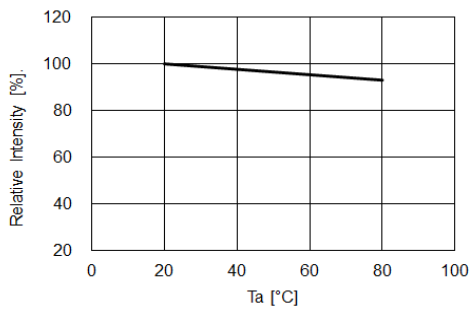


Fig.4 – Forward Voltage (@10mA) vs. Ambient Temperature

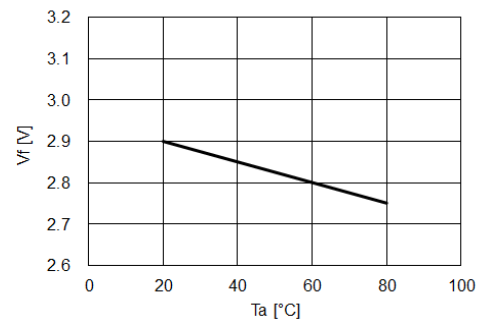


Fig.5 – Dominant Wavelength (@10mA) vs. Ambient Temperature

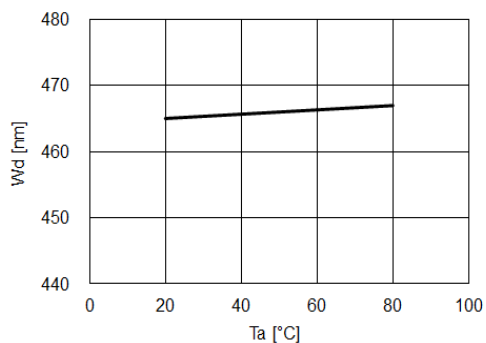


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)

