

### > Mechanical Specification:

#### (1) Dimension

- Chip size: 12 mil x 12 mil ( $300 \pm 25 \mu\text{m} \times 300 \pm 25 \mu\text{m}$ )
- Thickness: 3.9 mil ( $100 \pm 25 \mu\text{m}$ )
- P bonding pad: 3.5 mil ( $90 \pm 10 \mu\text{m}$ )
- N bonding pad: 3.5 mil ( $90 \pm 10 \mu\text{m}$ )

#### (2) Metallization

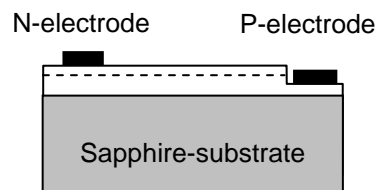
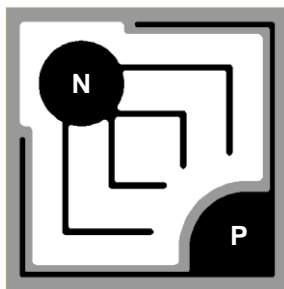
- Topside P electrode: Au alloy
- Topside N electrode: Au alloy

#### Features:

- High luminous intensity
- Transparent structure
- Horizontal electrode
- Non-conductive substrate

#### Applications:

- Outdoor display
- Traffic signal
- Consumer Electronic



### > Electro-optical Characteristics at 25°C:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Forward Voltage	Vf1	If = 10μA	1.3	-	-	V	
	Vf2	If = 20mA	1.8	-	2.5	V	
Reverse Current	I <sub>r</sub>	V <sub>r</sub> = 10V	-	-	5.0	μA	
Dominant Wavelength <sup>(1)</sup>	λ <sub>d</sub>	If = 20mA	584	589	594	nm	
Spectra Half-width	Δλ	If = 20mA	-	18	-	nm	
Luminous Intensity <sup>(2)(3)</sup>	I <sub>v</sub>	If = 20mA	E18	600	-	-	mcd
			E19	650	-	-	
			E20	700	-	-	
			E21	770	-	-	

Note:

(1) Basically, the wavelength span is 10nm; however, customers' special requirements are also welcome.

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(3) Luminous intensity is measured by EPISTAR's equipment on bare chips.

## > Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 25°C	≤ 50	mA
Reverse Voltage	Vr	Ta = 25°C	≤ 10	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

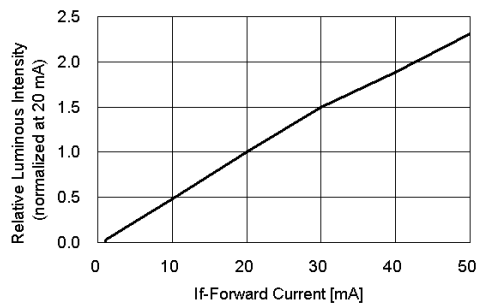


Fig.2 – Forward Current vs. Forward Voltage

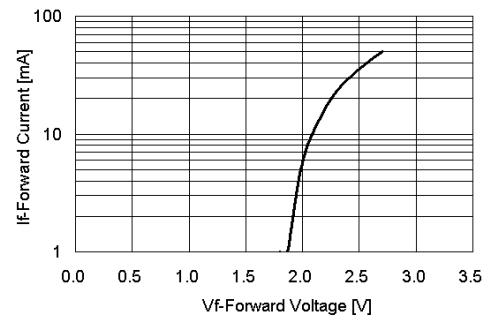


Fig.3 – Relative Intensity (@20mA) vs. Ambient Temperature

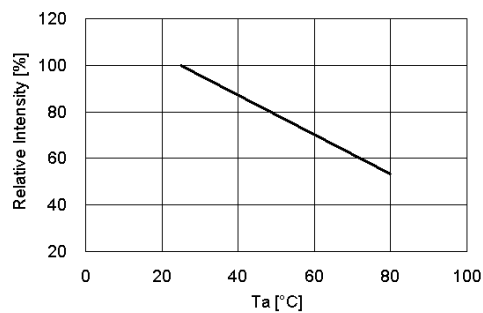


Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

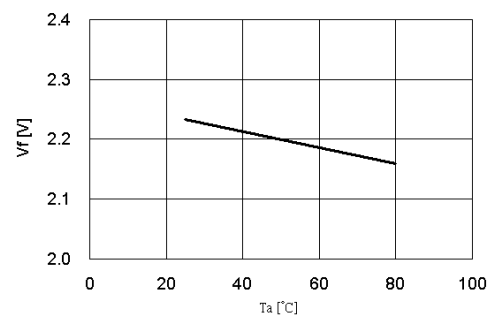


Fig.5 – Dominant Wavelength (@20mA) vs. Ambient Temperature

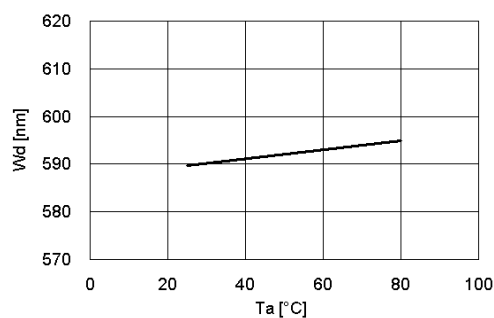


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)

