

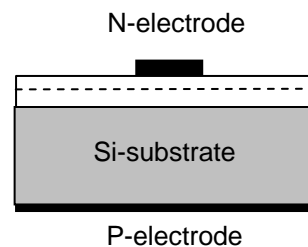
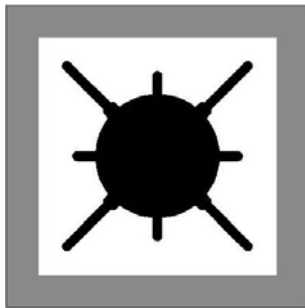
### > Mechanical Specification:

#### (1) Dimension

- Chip size: 10 mil x 10 mil ( $235\pm 25\ \mu\text{m}$  x  $235\pm 25\ \mu\text{m}$ )
- Thickness: 6.7 mil ( $170\pm 25\ \mu\text{m}$ )
- N bonding pad: 3.7 mil ( $95\pm 10\ \mu\text{m}$ )

#### (2) Metallization

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



#### Features:

- High luminous intensity
- Thin film structure
- Vertical electrode
- High driving current

#### Applications:

- Outdoor display
- Traffic signal
- Automotive
- Consumer electronic

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Forward Voltage	Vf1	If = 10 $\mu$ A	1.3	-	-	V	
	Vf2	If = 20mA	-	2.1	2.5	V	
Reverse Current	Ir	Vr = 10V	-	-	5.0	$\mu$ A	
Peak Wavelength	$\lambda_p$	If = 20mA	-	631	-	nm	
Dominant Wavelength <sup>(1)</sup>	$\lambda_d$	If = 20mA	619	624	629	nm	
Spectra Half-width	$\Delta\lambda$	If = 20mA	-	20	-	nm	
Luminous Intensity <sup>(2)(3)</sup>	Iv	E18	If = 20mA	600	-	-	mcd
		E19		650	-	-	
		E20		700	-	-	
		E21		770	-	-	

Note:

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

(2) Customers' special requirements are also welcome.

(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

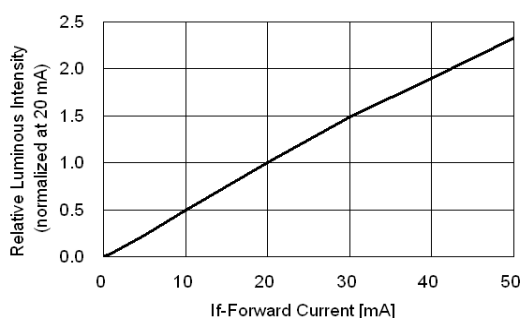


Fig.2 – Forward Current vs. Forward Voltage

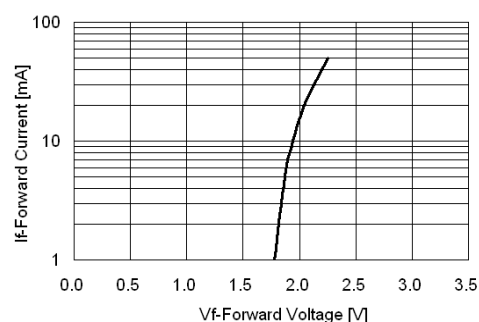


Fig.3 – Relative Intensity (@20mA) vs. Ambient Temperature

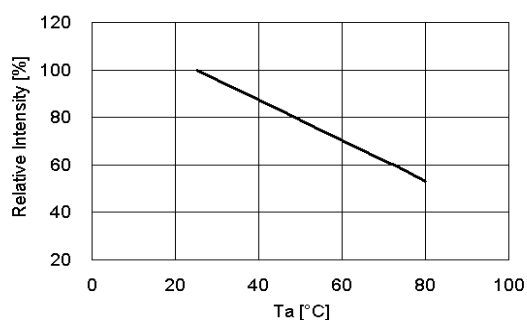


Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

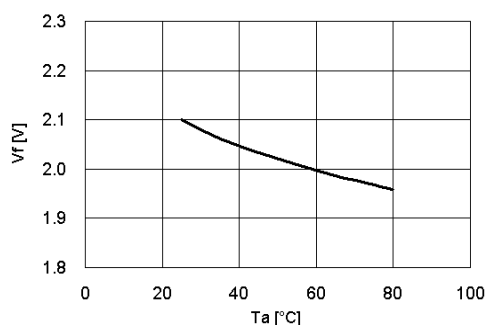


Fig.5 – Dominant Wavelength (@20mA) vs. Ambient Temperature

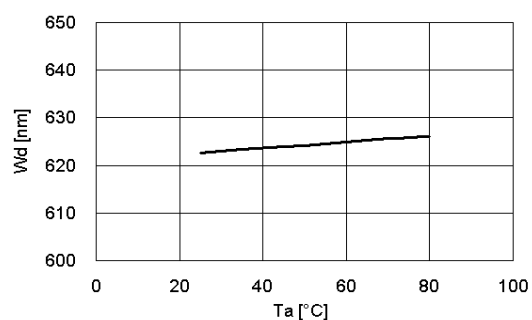


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)

