

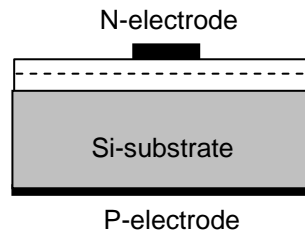
> Mechanical Specification:

(1) Dimension

- Chip size: 12 mil x 12 mil ($270\pm 25\ \mu\text{m}$ x $270\pm 25\ \mu\text{m}$)
- Thickness: 6.7 mil ($170\pm 25\ \mu\text{m}$)
- N bonding pad: 3.9 mil ($100\pm 10\ \mu\text{m}$)

(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
- Consumer electronic

> Electro-optical Characteristics at 25°C:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Forward Voltage	Vf1	If = 10 μ A	1.3	-	-	V	
	Vf2	If = 20mA	-	2.1	2.5	V	
Reverse Current	Ir	Vr = 10V	-	-	5.0	μ A	
Peak Wavelength	λ_p	If = 20mA	-	591	-	nm	
Dominant Wavelength ⁽¹⁾⁽²⁾	λ_d	If = 20mA	584	589	594	nm	
Spectra Half-width	$\Delta\lambda$	If = 20mA	-	15	-	nm	
Luminous Intensity ⁽³⁾⁽⁴⁾⁽⁵⁾	Iv	If = 20mA	E16	500	-	-	mcd
			E17	550	-	-	
			E18	600	-	-	
			E19	650	-	-	

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	I_f	$T_a = 25^\circ\text{C}$	≤ 70	mA
Reverse Voltage	V_r	$T_a = 25^\circ\text{C}$	≤ 10	V
Junction Temperature	T_j	-	≤ 115	$^\circ\text{C}$
Storage Temperature	T_{stg}	Chip	$-40 \sim +85$	$^\circ\text{C}$
		Chip-on-tape/storage	$5 \sim 35$	$^\circ\text{C}$
		Chip-on-tape/transportation	$-20 \sim +65$	$^\circ\text{C}$
Temperature during Packaging	-	-	$280(<10\text{sec})$	$^\circ\text{C}$

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

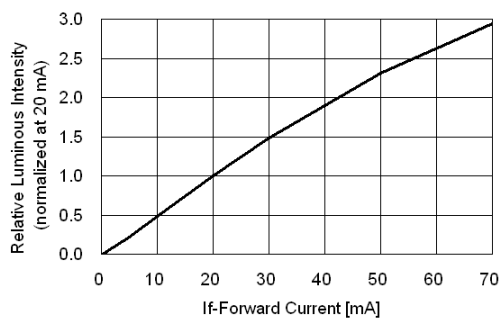


Fig.2 – Forward Current vs. Forward Voltage

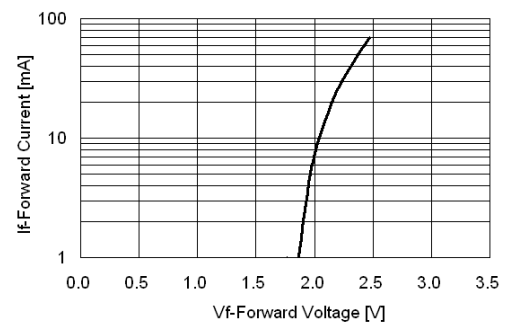


Fig.3 – Relative Intensity (@20mA) vs. Ambient Temperature

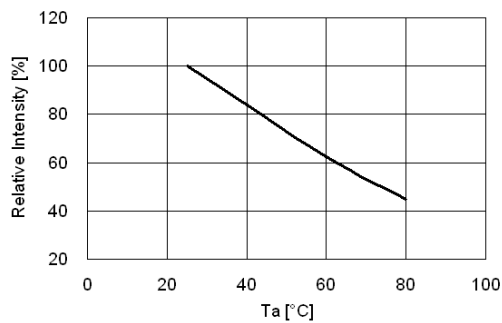


Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

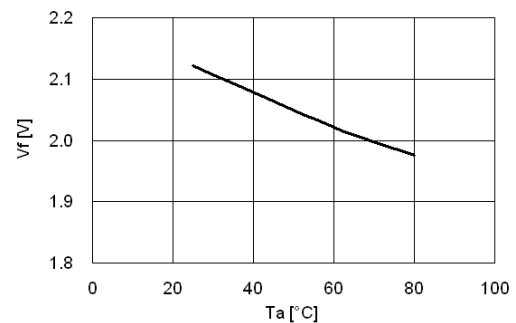


Fig.5 – Dominant Wavelength (@20mA) vs. Ambient Temperature

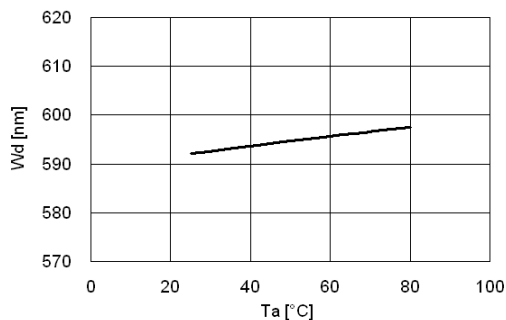


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on $T_j \text{ max.} = 115^\circ\text{C}$)

