

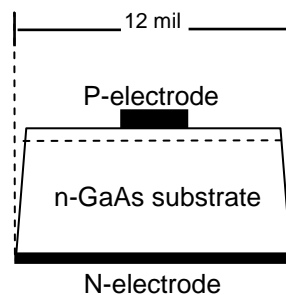
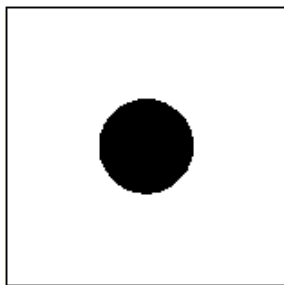
### > Mechanical Specification:

#### (1) Dimension

- Chip size: 12 mil x 12 mil ( $305\pm 25\ \mu\text{m}$  x  $305\pm 25\ \mu\text{m}$ )
- Thickness: 6.7 mil ( $170\pm 25\ \mu\text{m}$ )
- P bonding pad: 4.6 mil ( $117\pm 10\ \mu\text{m}$ )

#### (2) Metallization

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



#### Features:

- High luminous intensity
- ITO layer on top

#### Applications:

- Outdoor display
- Traffic signal

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Forward Voltage	Vf1	If = 10 $\mu$ A	1.35	-	-	V	
	Vf2	If = 20mA	-	2.0	2.4	V	
Reverse Current	Ir	Vr = 10V	-	-	10	$\mu$ A	
Peak Wavelength	$\lambda_p$	If = 20mA	-	598	-	nm	
Dominant Wavelength <sup>(1)</sup>	$\lambda_d$	If = 20mA	590	595	600	nm	
Spectra Half-width	$\Delta\lambda$	If = 20mA	-	16	-	nm	
Luminous Intensity <sup>(2)(3)</sup>	Iv	If = 20mA	E7	110	-	-	mcd
			E8	140	-	-	
			E9	170	-	-	
			E10	200	-	-	
			E11	250	-	-	

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.

This product is made and sold under one or more of the following patents: Taiwan Patent Certificate Nos.: 098998; 113696; 128153; 131010; 144415; 148677; 170789; 183481; 183846; U.S. Patent Nos.: 5,008,718; 5,164,798; 5,233,204; 5,789,768; 6,078,064; 6,057,562; 6,225,648; 6,552,367; 6,876,005, and any foreign counterparts.

## > 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

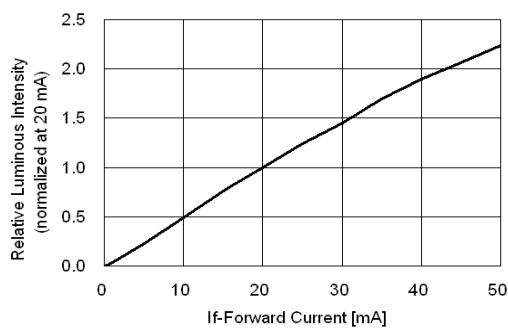


Fig.2 – Forward Current vs. Forward Voltage

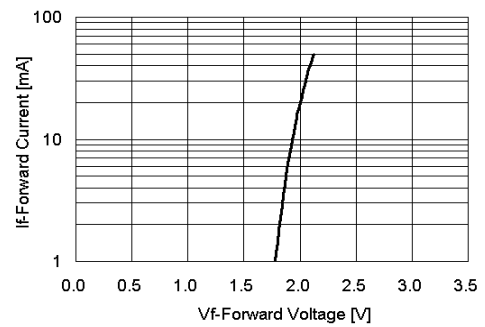


Fig.3 – Relative Intensity (@20mA) vs. Ambient Temperature

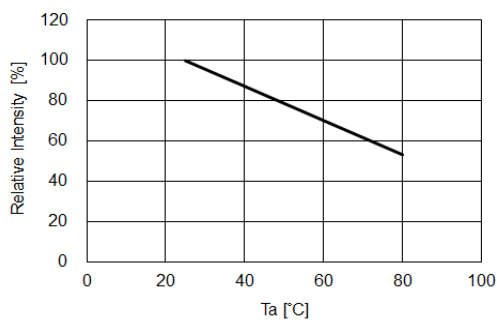


Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

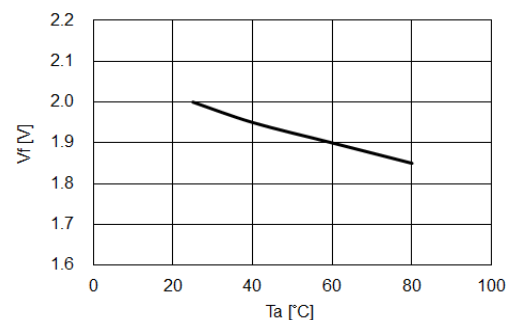


Fig.5 – Dominant Wavelength (20mA) vs. Ambient Temperature

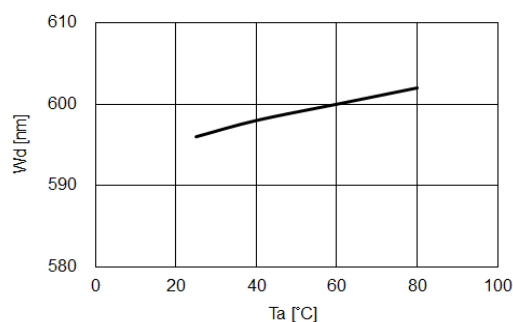


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on Tj max. = 115°C)

