

### > Mechanical Specification:

#### (1) Dimension

- Chip size: 45 mil x 45 mil ( $1143 \pm 25 \mu\text{m} \times 1143 \pm 25 \mu\text{m}$ )
- Thickness: 5.9 mil ( $150 \pm 10 \mu\text{m}$ )
- P bonding pad: 3.9 mil ( $100 \pm 10 \mu\text{m}$ )
- N bonding pad: 3.9 mil ( $100 \pm 10 \mu\text{m}$ )

#### (2) Metallization

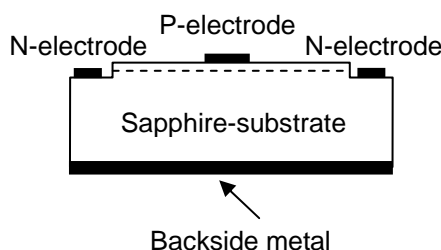
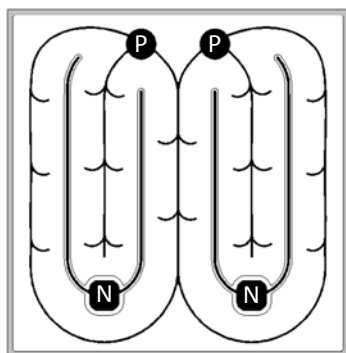
- Topside P electrode (x2): Au alloy
- Topside N electrode (x2): Au alloy
- Backside metal: Au alloy

#### Features:

- High radiant flux
- Long operation life
- Lambertian radiation

#### Applications:

- Street lighting
- Architechural lighting
- Residential lighting



### > Electro-optical Characteristics at 25°C: <sup>(1)</sup>

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Forward Voltage	Vf1	If = 10 $\mu$ A	1.6	-	-	V	
	Vf2	If = 350mA	-	3.1	3.5	V	
Reverse Current	Ir	Vr = 5V	-	-	2.0	$\mu$ A	
Dominant Wavelength <sup>(2)</sup>	$\lambda_d$	If = 350mA	455	-	465	nm	
Spectra Half-width	$\Delta\lambda$	If = 350mA	-	25	-	nm	
Radiant Flux <sup>(3)(4)</sup>	Po	M54	If = 350mA	360	-	380	mW
		M55		380	-	400	

Note:

(1) ESD protection during chip handling is recommended.

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

(3) Radiant flux is determined by using an Au-plated TO-can header without an encapsulant.

(4) Radiant flux measurement allows a tolerance of  $\pm 15\%$ .

## > Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 25°C	≤ 700	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 Metal Core Printed Circuit Board (MCPCB) 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

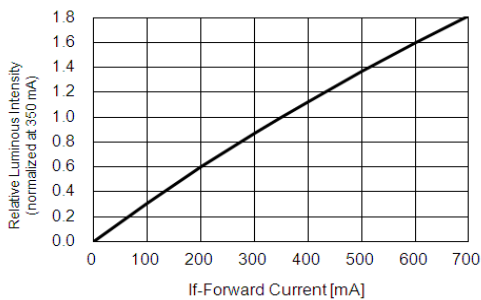


Fig.2 – Forward Current vs. Forward Voltage

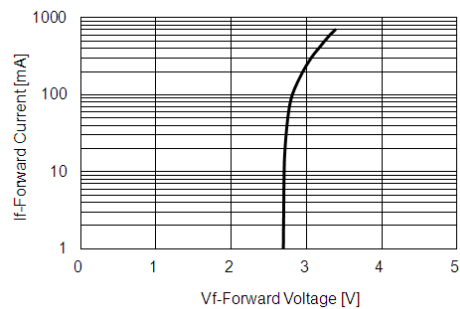


Fig.3 – Relative Intensity (@350mA) vs. Ambient Temperature

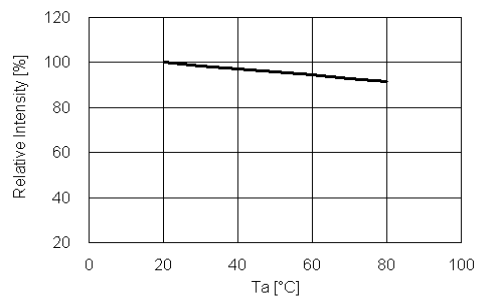


Fig.4 – Forward Voltage (@350mA) vs. Ambient Temperature

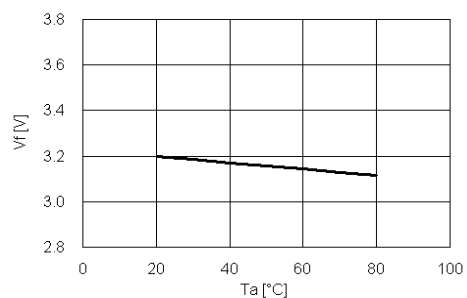


Fig.5 – Dominant Wavelength (@350mA) vs. Ambient Temperature

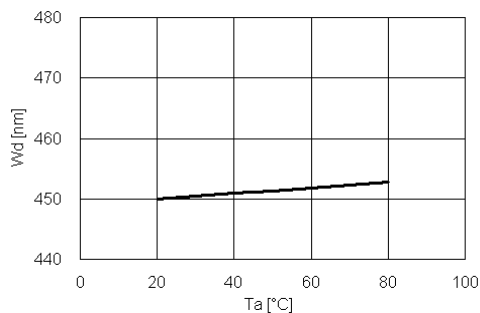


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)

