

InGaN Venus Blue LED Chip

□ Features:

- High radiant flux
- Long operation life
- Lambertian radiation

□ Applications:

- Street lighting
- Architectural lighting
- Residential lighting

□ Mechanical Specification:

(1) Dimension

Chip size : 45 mil x 45 mil (1143±25μm x 1143±25μm)

Thickness :5.9 mil (150 ± 10 μm)

P bonding pad x 2 : 4.4 mil (112 ± 10 μm)

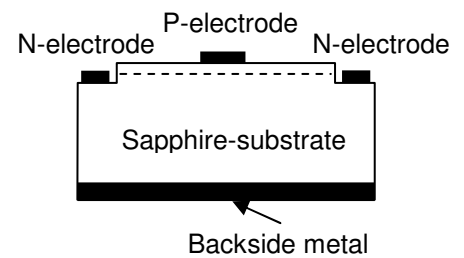
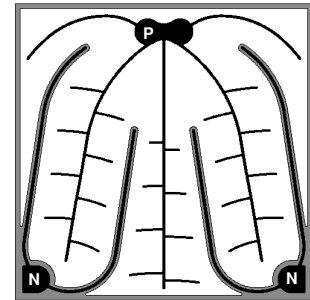
N bonding pad x 2 : 4.1 mil (105 ± 10 μm)

(2) Metallization

Topside P electrode : Au alloy

Topside N electrode : Au alloy

Backside metal : Au alloy



□ Electro-optical Characteristics at 25 °C: ⁽¹⁾

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_{f1}	$I_f=10\mu A$	1.6			V
	V_{f2}	$I_f=350mA$		3.4	3.6	V
Reverse current	I_r	$V_r=5V$			2.0	μA
Dominant wavelength ⁽²⁾	λ_d	$I_f=350mA$	445		455	nm
Spectral half-width	$\Delta\lambda$	$I_f=350mA$		25		nm
Radiant flux ⁽³⁾⁽⁴⁾	P_o	H15	255		295	mW
		H16	295		340	

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 a Au-plated TO-can header without an encapsulant.

(4) Radiant flux measurement allows a tolerance of ±15%.

□ Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC current	I_f	$T_a=25^{\circ}\text{C}$	≤ 700	mA
Reverse voltage	V_r	$T_a=25^{\circ}\text{C}$	≤ 5	V
Junction temperature	T_j	---	≤ 115	$^{\circ}\text{C}$
Storage temperature	T_{stg}	chip	-40 ~ +85	$^{\circ}\text{C}$
		chip-on-tape/storage	0 ~ 40	$^{\circ}\text{C}$
		chip-on-tape/transportation	-20 ~ +65	$^{\circ}\text{C}$
Temperature during packaging	---	---	280(<10sec)	$^{\circ}\text{C}$

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

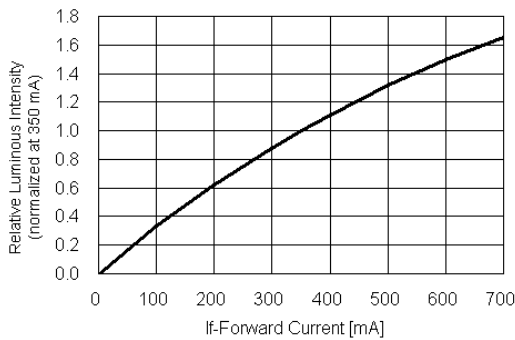


Fig.2- Forward Current vs. Forward Voltage

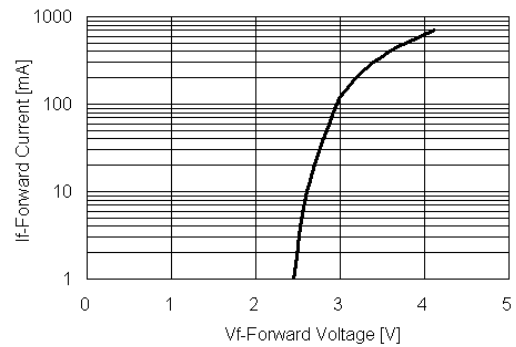


Fig.3-Relative Intensity (@350mA) vs. Ambient Temperature

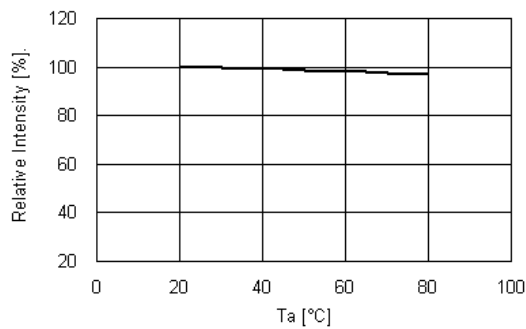


Fig.4-Forward Voltage (@350mA) vs. Ambient Temperature

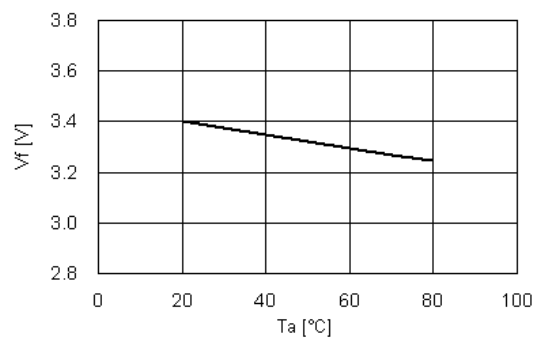


Fig.5-Dominant Wavelength(@350mA) vs. Ambient Temperature

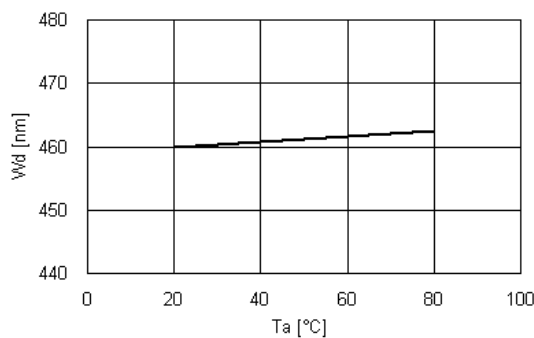


Fig.6 Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on T_j max. = 115°C)

