

AlGaInP PN-series LED Chip

□ Features:

- High radiant flux
- Thin film structure
- Vertical electrode
- High driving current

□ Applications:

- Horticulture lighting
- Medical appliances

□ Mechanical Specification:

(1) Dimension

Chip size : 42 mil x 42 mil (1066±25µm x 1066±25µm)

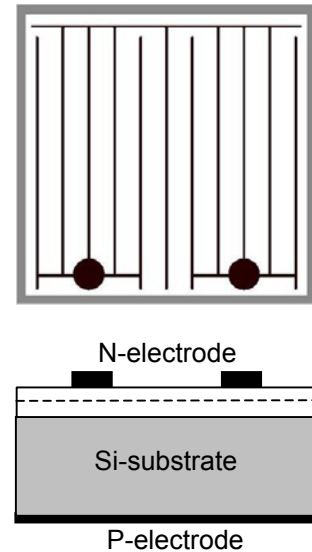
Thickness : 8.8 mil (225 ± 25 µm)

N bonding pad : 4.3 mil (110 ± 10 µm)

(2) Metallization

Topside N electrode : Au alloy (x2)

Backside P electrode : Au alloy



□ Electro-optical Characteristics at 25 °C:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_{f1}	$I_f=10\mu A$	1.3			V
	V_{f2}	$I_f=350mA$		2.2	3.0	V
Reverse current	I_r	$V_r=10V$			5.0	µA
Peak wavelength ⁽¹⁾	λ_p	$I_f=350mA$	650	660	670	nm
Spectral half-width	$\Delta\lambda$	$I_f=350mA$		20		nm
Radiant flux ⁽²⁾⁽³⁾	Po	H8	145			mW
		H9	175			

Note:

(1) Basically, the wavelength span is 20nm; however, customers' special requirements are also welcome.

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(3) Radiant flux is measured by EPISTAR's equipment on bare chips.

□ Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC current	I_f	$T_a=25^\circ\text{C}$	≤ 500	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 ~ +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 Radiant Flux vs. Forward Current

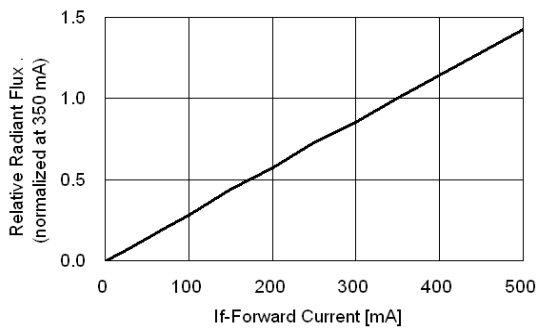


Fig.2- Forward Current vs. Forward Voltage

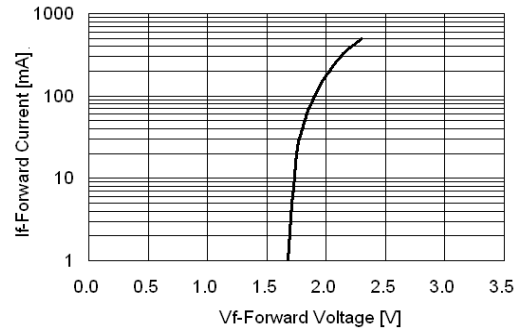


Fig.3- Relative Radiant Flux (@350mA) vs. Ambient Temperature

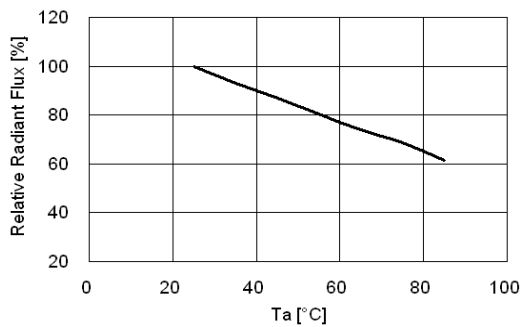


Fig.4-Forward Voltage (@350mA) vs. Ambient Temperature

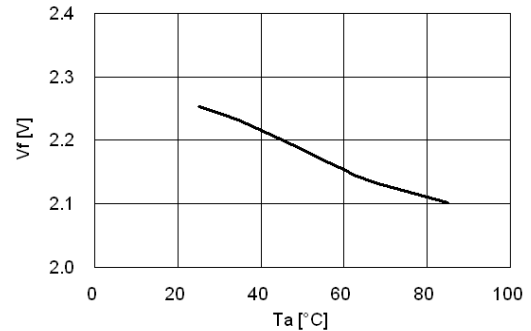


Fig.5- Peak Wavelength(@350mA) vs. Ambient Temperature

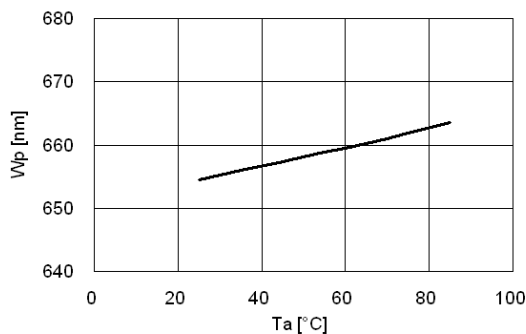


Fig.6 Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on T_j max. = 115°C)

