EPISTAR

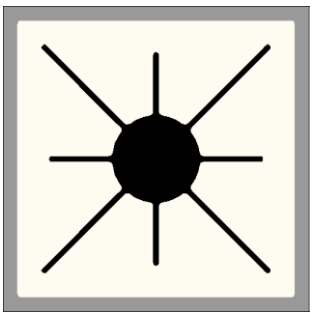
ES-SAUFPN14T

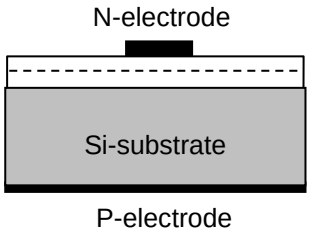
AlGaAs PN-series LED Chip

> Mechanical Specification:

(1) Dimension
- Chip size: 14 mil x 14 mil (350±25 μm x 350±25 μm)
- Thickness: 5.1 mil (130±25 μm)
- N bonding pad: 3.9 mil (100±10 μm)

(2) Metallization
- Topside N electrode : Au alloy
- Backside P electrode: Au alloy





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

Applications:
- Mobile appliances
- Data Communication
- Touch panel
- Surveillance

> Electro-optical Characteristics at 25°C:

Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Forward Voltage	Vf1		If = 10μA	0.8	-	-	V
	Vf2		If = 100mA	-	1.55	1.8	V
Reverse Current	Ir		Vr = 10V	-	-	5.0	μA
Peak Wavelength[(1)]	λp		If = 100mA	925	940	955	nm
Spectra Half-width	Δλ		If = 100mA	-	48	-	nm
Radiant flux[(2)(3)]	Po	H6	If = 100mA	48	-	-	mW
		H7		54	-	-	
		H8		60	-	-	

Note:
(1) Basically, the wavelength span is 30nm; 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	If	Ta = 25˚C	≤ 100	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 Radiant Flux vs. Forward Current

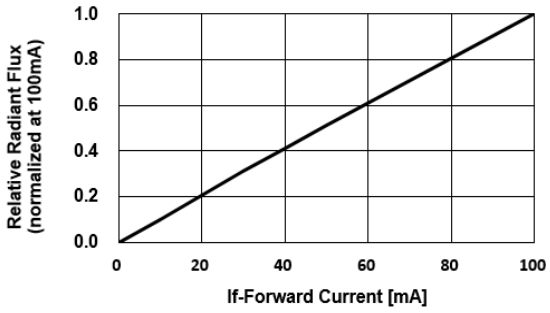

Fig.2 – Forward Current vs. Forward Voltage

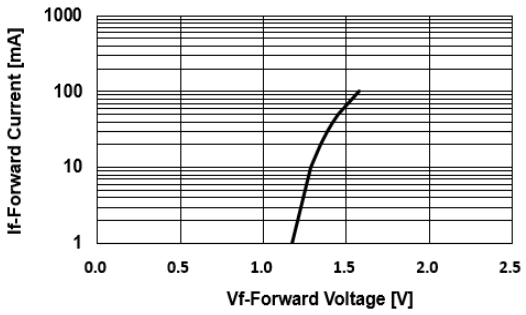

Fig.3 – Relative Radiant Flux (@100mA) vs. Ambient Temperature

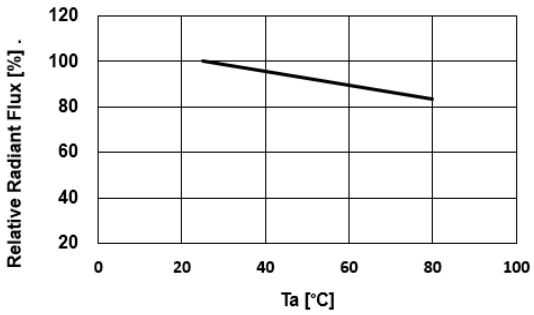

Fig.4 – Forward Voltage (@100mA) vs. Ambient Temperature

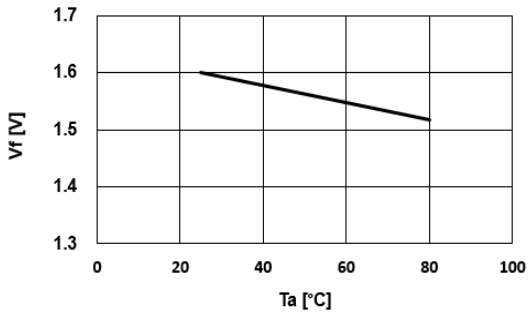

Fig.5 – Peak Wavelength (@100mA) vs. Ambient Temperature

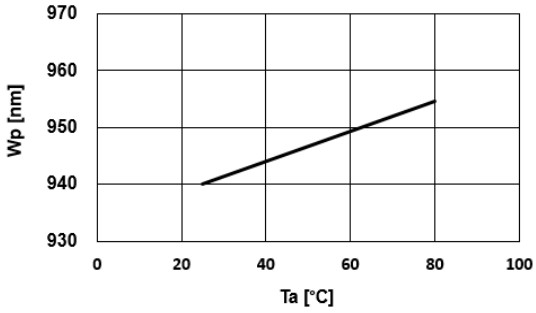

Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)