EPISTAR

ES-AEHRAX12

AlGaInP AX-series LED Chip

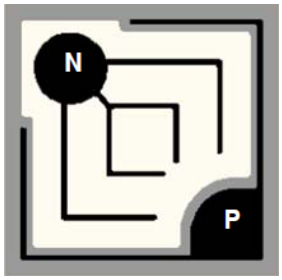
> Mechanical Specification:

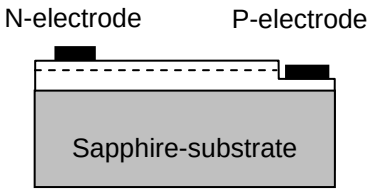
(1) Dimension
- Chip size: 12 mil x 12 mil (300 ± 25 µm x 300 ± 25 µm)
- Thickness: 3.9 mil (100 ± 25 µm)
- P bonding pad: 3.3 mil (85 ± 10 µm)
- N bonding pad: 3.3 mil (85 ± 10 µm)

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

Features:
· High luminous intensity
· Transparent structure
· Horizontal electrode
· Non-conductive substrate

Applications:
· Outdoor display
· Traffic signal
· Consumer Electronic





> Electro-optical Characteristics at 25°C:

Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Forward Voltage	Vf1		If = 10µA	1.3	-	-	V
	Vf2		If = 20mA	1.8	-	2.5	V
Reverse Current	Ir		Vr = 10V	-	-	5.0	µA
Dominant Wavelength[(1)]	λd		If = 20mA	619	-	629	nm
Spectra Half-width	Δλ		If = 20mA	-	18	-	nm
Luminous Intensity[(2)(3)]	Iv	E18	If = 20mA	600	-	-	mcd
		E19		650	-	-	
		E20		700	-	-	

Note:
(1) Basically, the wavelength span is 10nm; however, customers' special requirements are also welcome.
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(3) Luminous intensity is measured by EPISTAR's equipment on bare chips.

> 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

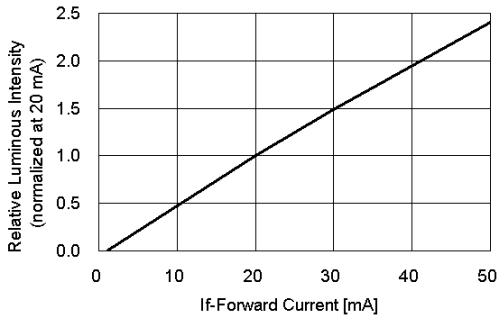

Fig.2 – Forward Current vs. Forward Voltage

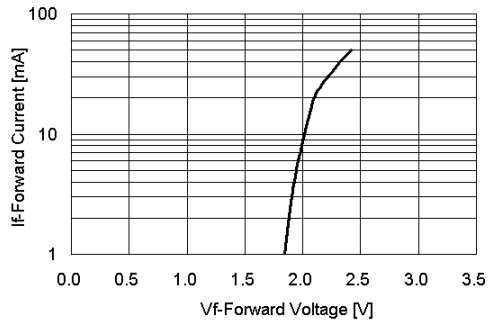

Fig.3 – Relative Intensity (@20mA) vs. Ambient Temperature

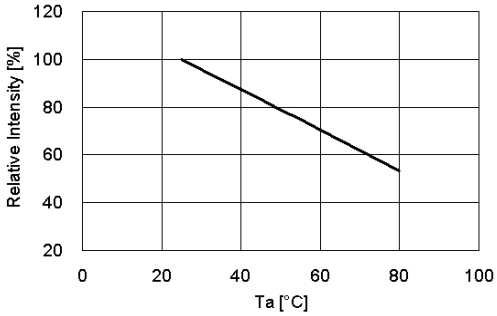

Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

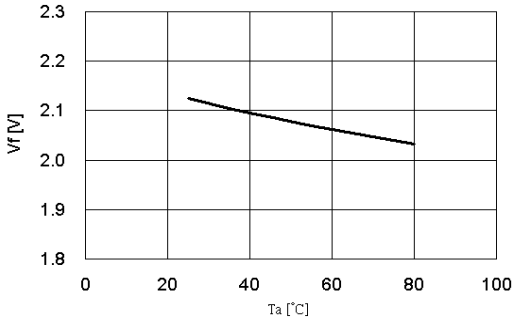

Fig.5 – Dominant Wavelength (@20mA) vs. Ambient Temperature

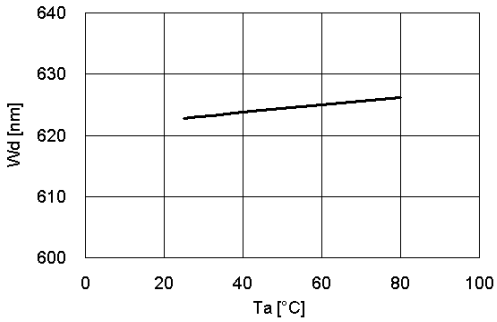

Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 115°C)