EPISTAR

ES-FEBCPE07A

InGaN Blue LED Chip

> Mechanical Specification:

(1) Dimension

- Chip size: 7mil x 12mil (170 \pm 25 μ m x 315 \pm 25 μ m)

- Thickness: 3.5mil (90 \pm 10 μ m)

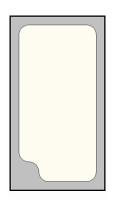
- Anode pad: 92.5 \pm 10 μ m x 130 \pm 10 μ m - Cathode pad: 92.5 \pm 10 μm x 130 \pm 10 μm

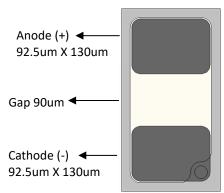
(2) Metallization

- Electrode pad: Au

Top view

Bottom view





Features:

- High Power Density
- · Low Rth and Long life time

Applications:

Backlight

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

Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit
Forward Voltage	Vf1	If = 10μA	1.9	-	-	V
	Vf2	If = 5mA	-	2.8	2.9	V
Reverse Current	Ir	Vr = 10V	-	-	0.5	uA
Dominant Wavelength ⁽²⁾	λd	If = 5mA	445	-	460	nm
Spectra Half-width	Δλ	If = 5mA	-	15	-	nm
Radiant Flux ⁽³⁾⁽⁴⁾	Ро	If = 5mA	8.5	-	9.0	
			9.0	-	9.5	mW
			9.5	-	10	

⁽¹⁾ ESD protection during chip handling is recommended.

⁽²⁾ Basically, the wavelength span is 15nm; however, customers' special requirements are also welcome.

⁽³⁾ Radiant flux is determined by EPISTAR standard.

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

> Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 25℃	≤ 25	mA
Reverse Voltage	Vr	Ta = 25℃	≤ 10	V
Junction Temperature	Tj	-	≤ 125	٥
Storage Temperature	Tstg	Chip	-40 ~ +85	٢
		Chip-on-tape/storage	5~35	Ĉ
		Chip-on-tape/transportation	-20 ~ +65	٥
Temperature during Packaging	-	-	260(<5sec)*	٢

Note: Maximum ratings are package dependent. The above maximum ratings were determined using by EPISTAR standard. Forward current and junction temperature will cause the damage of LEDs if over the absolute maximum ratings.

> Characteristic Curves:

Fig.1 – Relative luminous Intensity vs. Forward Current

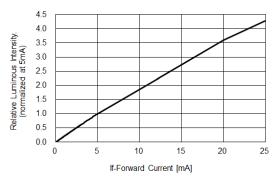


Fig.3 – Relative Intensity (@5mA) vs. Ambient Temperature

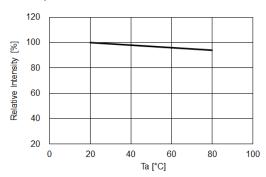


Fig.5 – Dominant Wavelength (@5mA) vs. Ambient Temperature

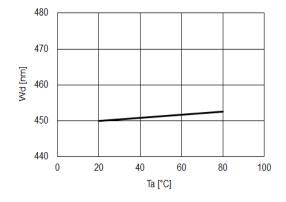


Fig.2 – Forward Current vs. Forward Voltage

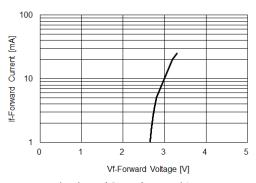


Fig.4 – Forward Voltage (@5mA) vs. Ambient Temperature

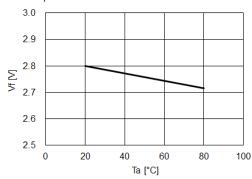
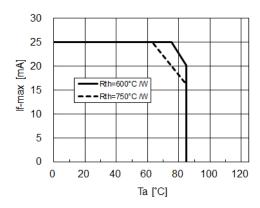


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (De-rating based on Tj max. = 125°C)



^{*}Reflow soldering should not be done more than two times.