EPISTAR

ES-CADBD09

AlGaInP ITO-top LED Chip

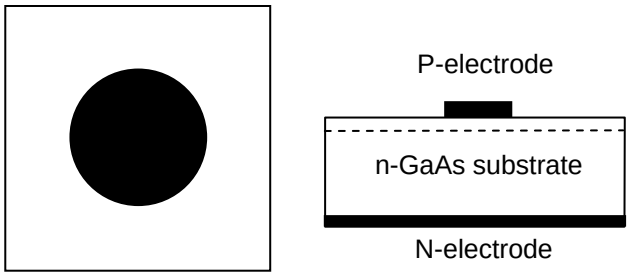
> Mechanical Specification:

(1) Dimension
- Chip size: 9 mil x 9 mil (230±25 µm x 230±25 µm)
- Thickness: 6.7 mil (170±25 µm)
- P bonding pad: 3.9 mil (100±10 µm)

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

Features:
· P-side up
· Peak wavelength: 650nm
· ITO layer on top

Applications:
· Data Communication
· Industrial Electronics



> Electro-optical Characteristics at 25°C:

Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Forward Voltage	Vf1		If = 10µA	1.35	-	-	V
	Vf2		If = 20mA	-	2.0	2.4	V
Reverse Current	Ir		Vr = 10V	-	-	10	µA
Peak Wavelength(1)	λp		If = 20mA	640	650	660	nm
Spectra Half-width	Δλ		If = 20mA	-	20	25	nm
Switching time(2)	tr/tf		If = 10mA	-	15/15	30/30	ns
Radiant Flux(2) (3)	Po	E1	If = 20mA	0.2	-	-	mW
		E2		0.5	-	-	
		E3		0.8	-	-	
		E4		1.2	-	-	

Note:
(1) Basically, the wavelength span is 20nm; however, customers' special requirements are also welcome.
(2) Measured by EPISTAR's equipment on bare chips.
(3) Customers' special requirements are also welcome.

This product is made and sold under one or more of the following patents: Taiwan Patent Certificate Nos.: 098998; 113696; 128153; 131010; 144415; 148677; 170789; 183481; 183846; U.S. Patent Nos.: 5,008,718; 5,164,798; 5,233,204; 5,789,768; 6,078,064; 6,057,562; 6,225,648; 6,552,367; 6,876,005, and any foreign counterparts.

> Absolute Maximum Ratings:

Parameter	Symbol	Condition	Rating	Unit
Forward DC Current	If	Ta = 25˚C	≤ 30	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

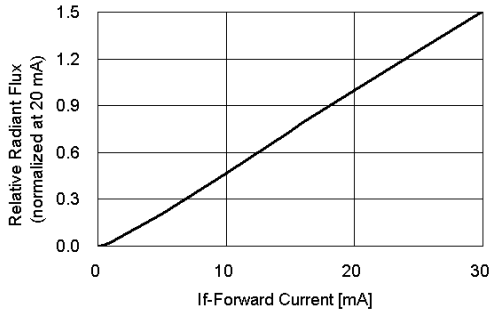


Fig.2 – Forward Current vs. Forward Voltage

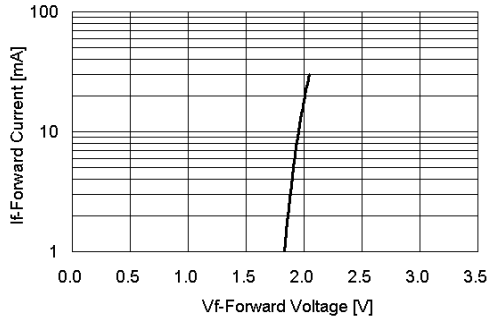


Fig.3 – Relative Radiant Flux (@20mA) vs. Ambient Temperature

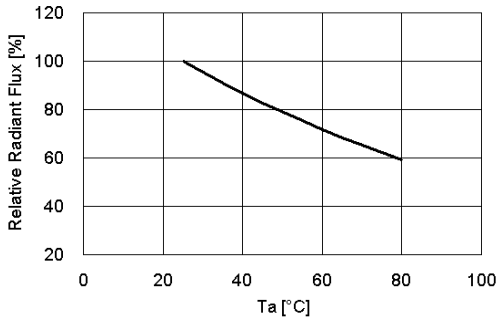


Fig.4 – Forward Voltage (@20mA) vs. Ambient Temperature

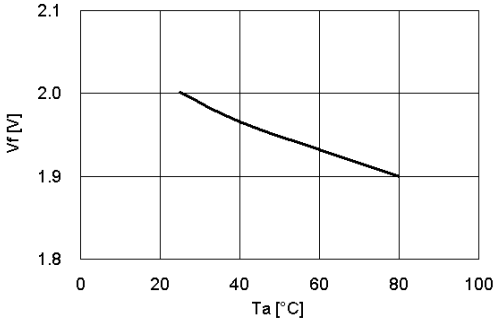


Fig.5 – Peak Wavelength (@20mA) vs. Ambient Temperature

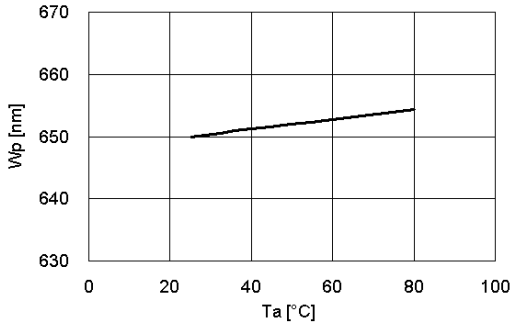


Fig.6 – Maximum Driving Forward DC Current vs. Ambient Temperature (Derating based on Tj max. = 115°C)