

PRODUCT:

13.5 MM CHIP ON BOARD LED HD5

FEATURES:

9W nominal 13.5 mm x 13.5 mm x 1.0 mm LED
 Φ5mm emitting surface
 120° emission angle
 95 min Ra



DESCRIPTION

YUJILEDS® BC HD5 COB provides high light output density on Φ5mm emitting surface. Providing 95 CRI (min), this point-source LED can be used in a variety of applications demanding high color quality and performance.



ELECTRICAL-OPTICAL CHARACTERISTICS (T _A = 25 °C)							
PARAMETER	SYMBOL	VALUE			UNIT	TOLERANCE	CONDITION
		MIN.	TYP.	MAX.			
Forward voltage	V _f	14	--	17	V	±0.05	I _f = 600mA
Luminous flux	Φ _{2700K}	640	--	--	lm	--	I _f = 600mA
	Φ _{3200K}	700					
	Φ _{4000K}	740					
	Φ _{5600K}	830					
Color temperature	CCT _{2700K}	2550	2700	2850	K	--	I _f = 600mA
	CCT _{3200K}	3050	3200	3350			
	CCT _{4000K}	3800	4000	4200			
	CCT _{5600K}	5300	5600	5900			
Color rendering index	Ra	95	--	--	--	±1	I _f = 600mA
Chromaticity coordinates	(X,Y)	--	--	--	--	±0.005	--
Reverse current	I _r	--	--	10	μA	±0.1	V _r = 25V
Viewing angle	2θ _{1/2}	--	120	--	Deg	±5	I _f = 600mA

ORDERING INFORMATION		
PART NUMBER	CCT	CHROMATICITY BINS
YJ-BC-HD5-G01-27	2700K ± 150K	273
YJ-BC-HD5-G01-32	3200K ± 150K	323
YJ-BC-HD5-G01-40	4000K ± 200K	403
YJ-BC-HD5-G01-56	5600K ± 300K	565A, 565B
YJ-BC-HD5-G01-XX	CUSTOM	

VOLTAGE BIN CODES	
BIN	V14
V _F	14-17

ABSOLUTE MAXIMUM RATING (T _A = 25 °C)			
PARAMETER	SYMBOL	LIMIT	UNIT
Power Consumption	P _D	13500	mW
DC Forward Current (pulsed)*	I _{Fp}	1800**	mA
DC Forward Current	I _F	900	mA
Reverse Voltage	V _R	25	V
Junction Temperature	T _j	125	°C
Case Temperature***	T _c	100	°C
Operating Temperature	T _{opr}	-30 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +100	°C
Soldering Temperature	T _{sol}	260 ± 5	°C
Reflow Cycles Allowed	--	2	--

* Pulse width ≤ 0.1ms, Duty ≤ 1/10.

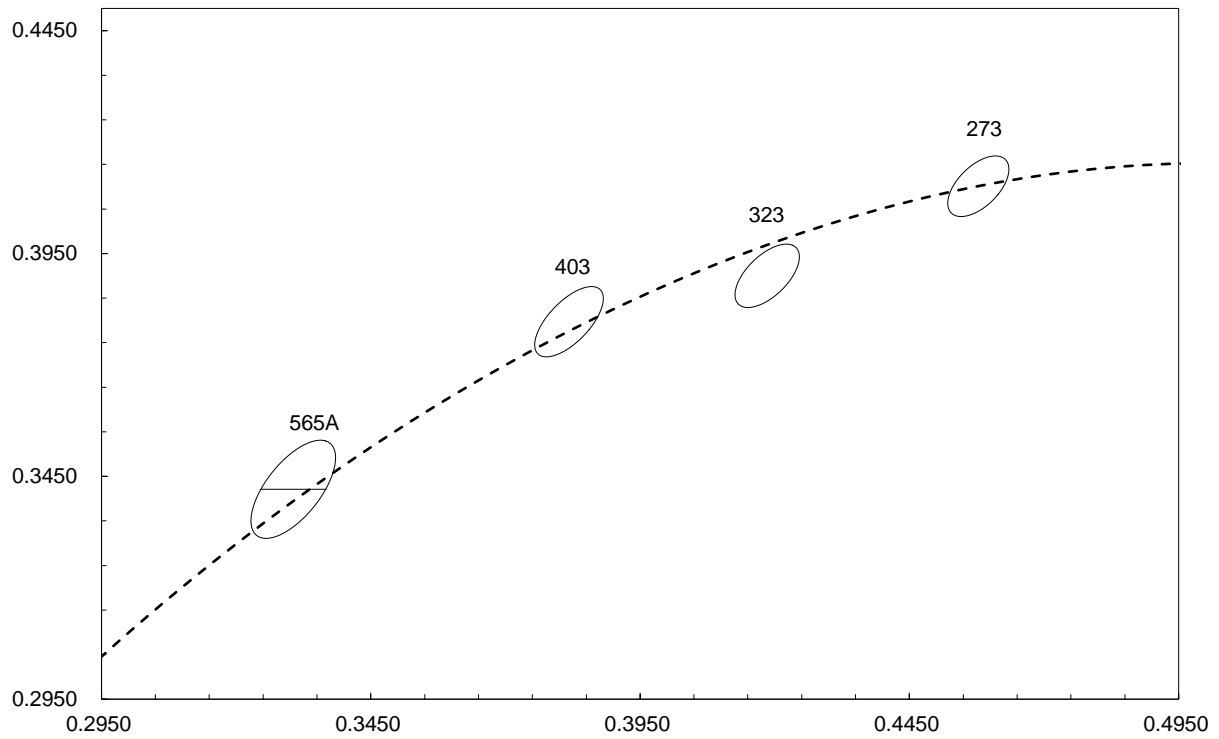
** Theoretical data.

*** See page 4 for case temperature point definition.

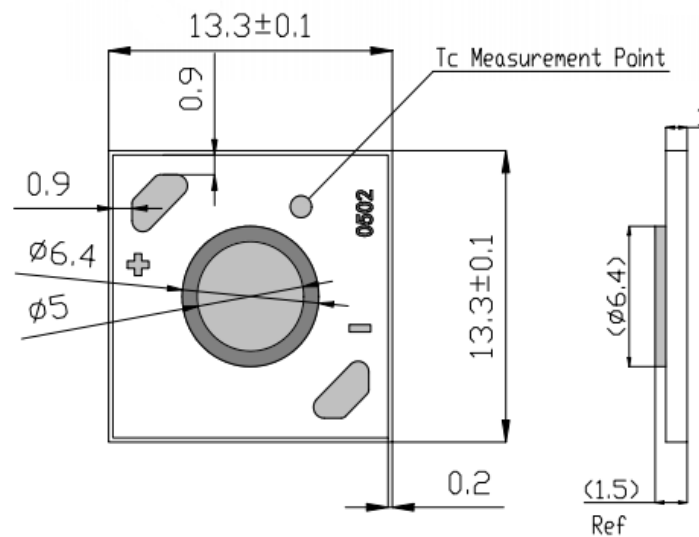
CHROMATICITY BINS & COORDINATES						
CCT	BIN	Center		Oval parameter		
		x	y	a	b	Theta°
2700K (3-step)	273	0.4662	0.4164	0.00774	0.00411	57.28
3200K (3-step)	323	0.4186	0.3900	0.00834	0.00408	53.17
4000K (3-step)	403	0.3878	0.3857	0.0094	0.004	54
5600K (5-step)	565A / 565B	0.3306	0.3421	0.01243	0.00533	59.09
		Cutting line		Point 1	0.3245	0.3421
				Point 2	0.3367	0.3421

CHROMATICITY BINS & COORDINATES

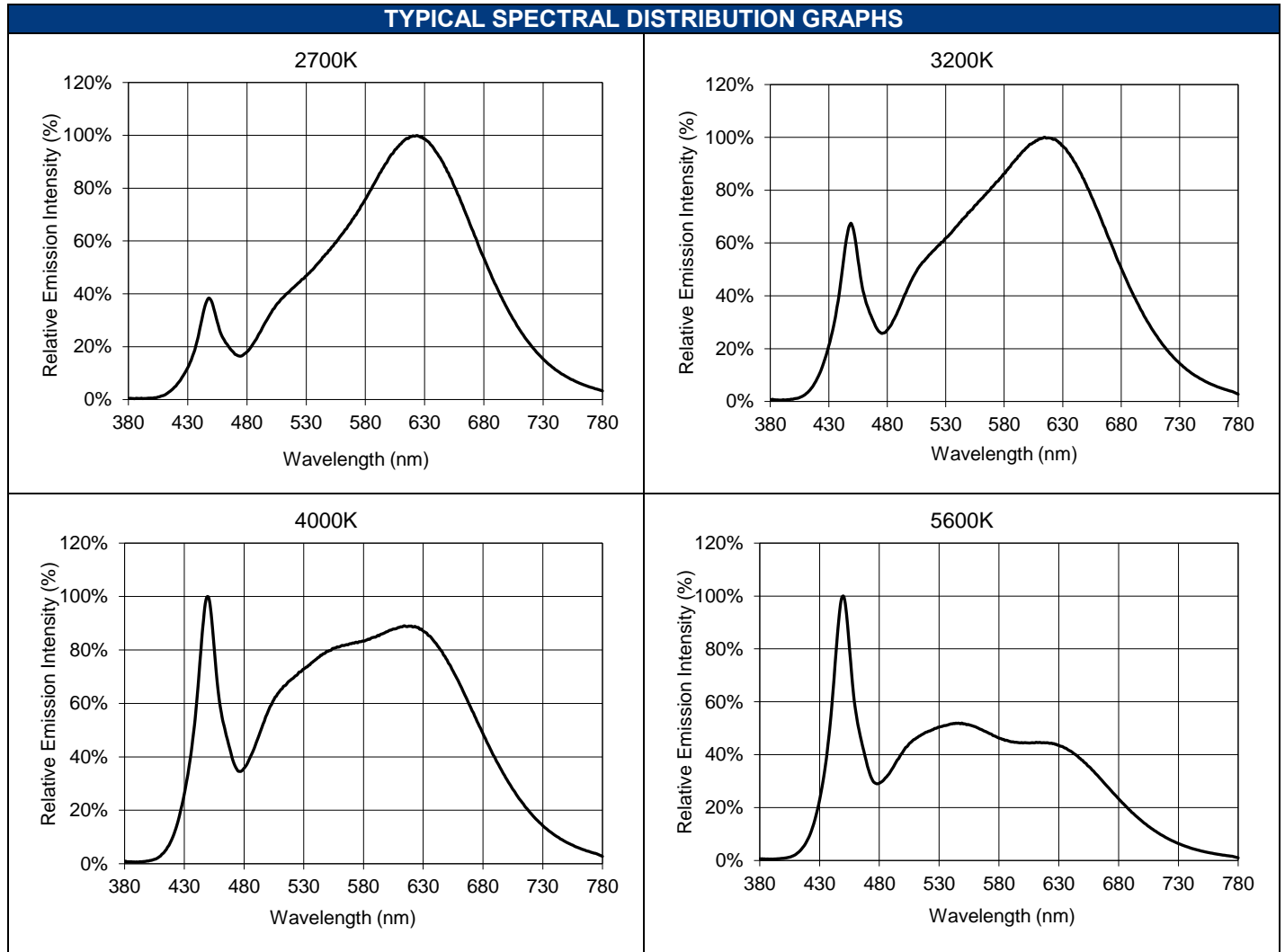
CIE 1931 COORDINATES



PACKAGE LAYOUT



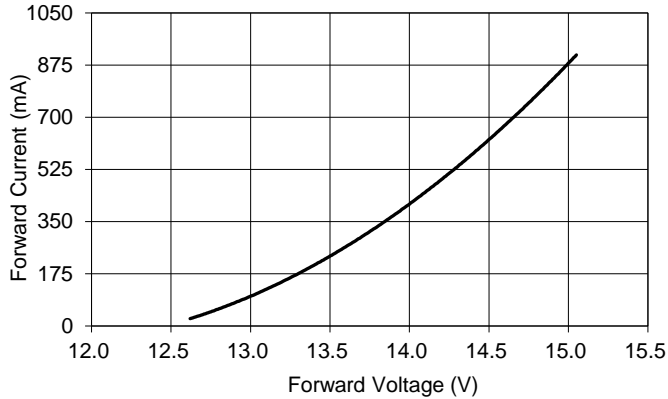
PACKAGE MATERIALS	
ITEM	DESCRIPTION
DIE MATERIAL	InGaN
LEAD FRAME MATERIAL	AlN
ENCAPSULANT RESIN MATERIAL	SILICONE + PHOSPHOR



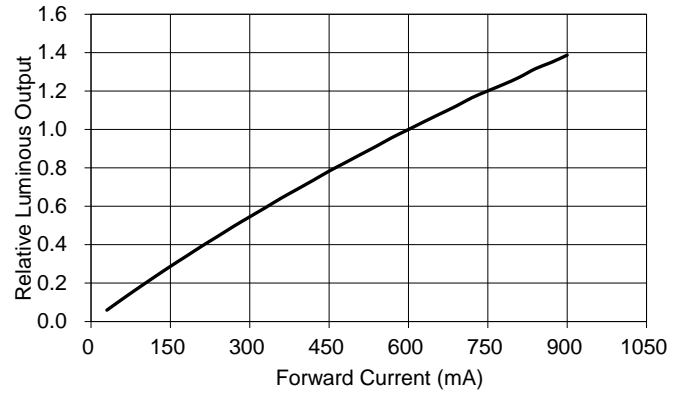
CHARACTERISTIC CURVES

ALL CHARACTERISTIC CURVES ARE FOR REFERENCE ONLY AND NOT GUARANTEED

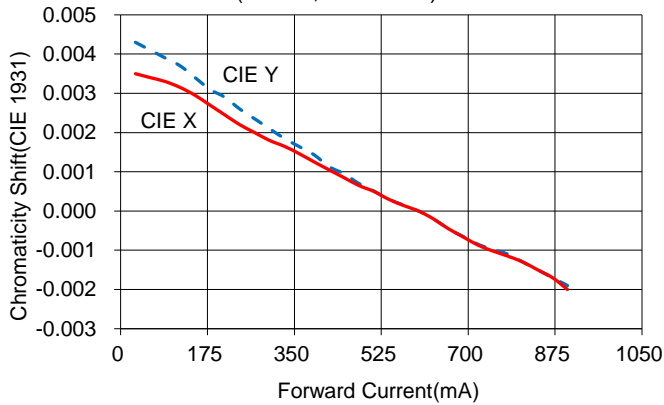
FORWARD CURRENT VS FORWARD VOLTAGE ($T_A = 25^\circ\text{C}$)



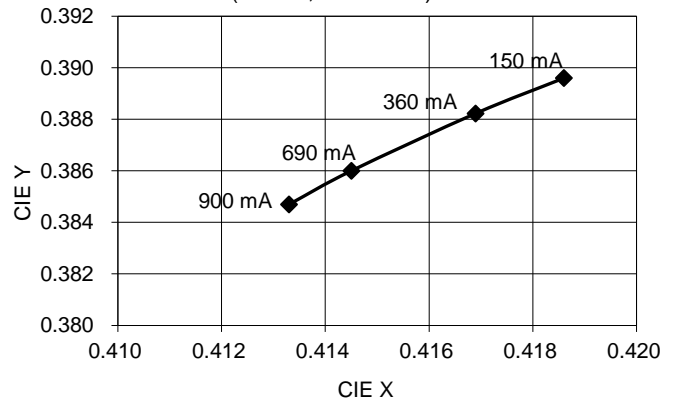
FORWARD CURRENT VS RELATIVE LUMINOUS OUTPUT ($T_A = 25^\circ\text{C}$)



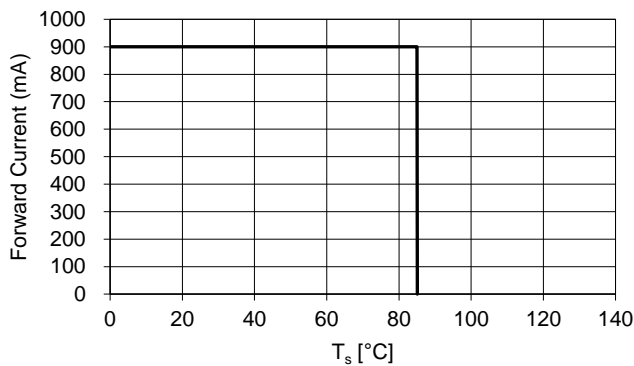
FORWARD CURRENT VS CHROMATICITY SHIFT (5600K, $T_A = 25^\circ\text{C}$)



FORWARD CURRENT VS CHROMATICITY SHIFT (5600K, $T_A = 25^\circ\text{C}$)

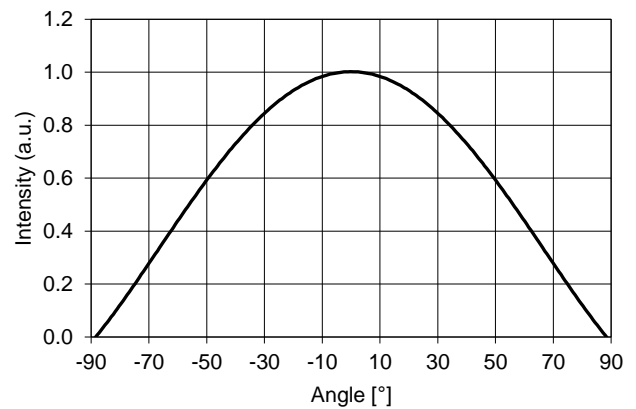


FORWARD CURRENT DERATING BASED ON SOLDER POINT



NOTE: DE-RATING CURVES ARE MEANT FOR RECOMMENDATION ONLY AND ARE NOT MEANT TO PROVIDE GUARANTEES OF PRODUCT STABILITY AND LONGEVITY

TYPICAL SPATIAL DISTRIBUTION ($T_A = 25^\circ\text{C}$, $I_F = 600\text{ mA}$)





LOT NUMBERING SCHEME

Yuji LED uses two formats for lot numbering purposes:

1) YYYY-MM-XXX-Z

YYYY: 4-digit manufacturing year

MM: 2-digit manufacturing month

XXX: 3-digit inventory number (000 – 999)

Z: internal alphanumeric code

2) YYYYMMXXX

YYYY: 4-digit manufacturing year

MM: 2-digit manufacturing month

XXX: 3-digit inventory number (000 – 999)