YJ-BC-135XL-G02

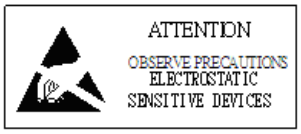
High CRI LED

PRODUCT:

13.5 MM CHIP ON BOARD LED

FEATURES:
5W nominal 13.5 mm x 13.5 mm x 1.0 mm LED
120° emission angle
95 min Ra

DESCRIPTION
YUJILEDS™ high CRI COB provides excellent color rendering in a ceramic form factor that allows for high light output density. 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 = 300mA
Luminous flux	Φ_{3200K}	390	--	450	lm	--	I_f = 300mA
	Φ_{5600K}	440		510			
Correlated color temperature	CCT_{3200K}	3050	3200	3350	K		
	CCT_{5600K}	5300	5600	5900			
Color rendering index	Ra	95	--	--	--	±1	I_f = 300mA
TCS R9 (CRI Red)	R9	--	90	--	--	--	I_f = 300mA
Chromaticity coordinates	(X,Y)	--	--	--	--	±0.005	--
Reverse current	I_r	--	--	10	μA	±0.1	V_r = 25V
Viewing angle	2θ1/2	--	120	--	Deg	±5	I_f = 300mA

ORDERING INFORMATION		
PART NUMBER	CCT	CHROMATICITY BINS
YJ-BC-135XL-G02-32	3200K ± 150K	32L, 32R
YJ-BC-135XL-G02-56	5600K ± 300K	56L, 56R
YJ-BC-135XL-G02-XX	CUSTOM	

VOLTAGE BIN CODES	
Bin	**V14**
V_F	14-17

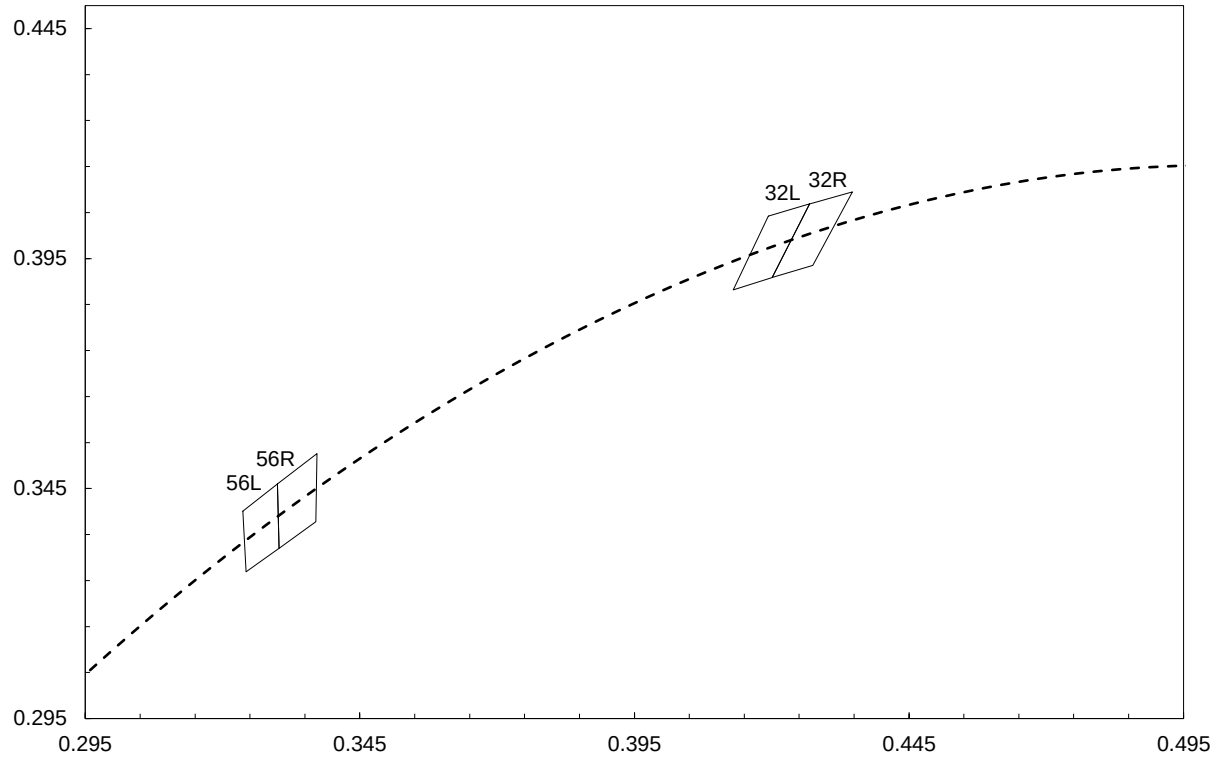
ABSOLUTE MAXIMUM RATING (T_A = 25 °C)			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Power Consumption	P_D	5400	mW
DC Forward Current	I_F	360	mA
Reverse Voltage	V_R	25	V
Junction Temperature	T_j	125	°C
Case Temperature*	T_c	85	°C
Operating Temperature	T_{opr}	-45 ~ +85	°C
Storage Temperature	T_{stg}	-45 ~ +85	°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	CIE 1931 COORDINATES							
		X0	Y0	X1	Y1	X2	Y2	X3	Y3
5600K	56L	0.3237	0.3401	0.3243	0.3269	0.3303	0.3320	0.3300	0.3460
	56R	0.3300	0.3460	0.3303	0.3320	0.3370	0.3378	0.3372	0.3526
3200K	32L	0.4194	0.4042	0.4130	0.3882	0.4201	0.3909	0.4269	0.4069
	32R	0.4269	0.4069	0.4201	0.3909	0.4275	0.3935	0.4347	0.4095

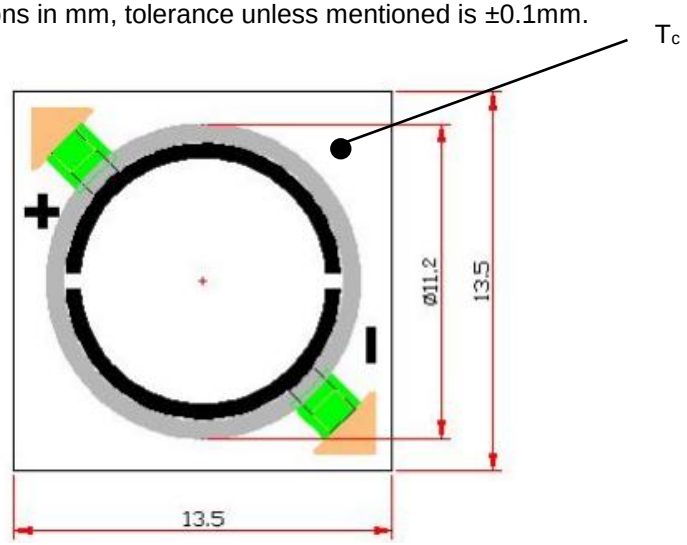
CHROMATICITY BINS & COORDINATES

CIE 1931 COORDINATES



PACKAGE LAYOUT

All dimensions in mm, tolerance unless mentioned is ±0.1mm.



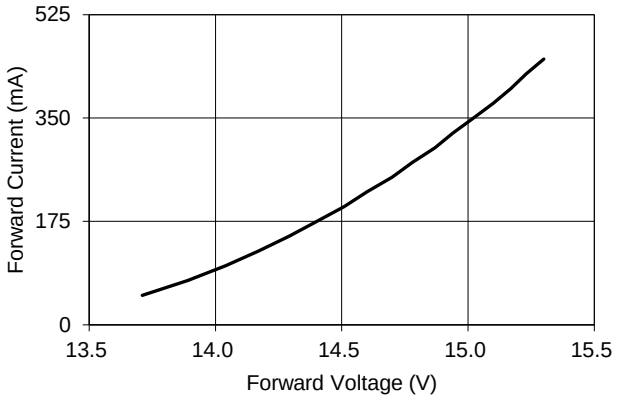
PACKAGE MATERIALS

ITEM	DESCRIPTION
DIE MATERIAL	InGaN
LEAD FRAME MATERIAL	CERAMIC
ENCAPSULANT RESIN MATERIAL	SILICONE + PHOSPHOR

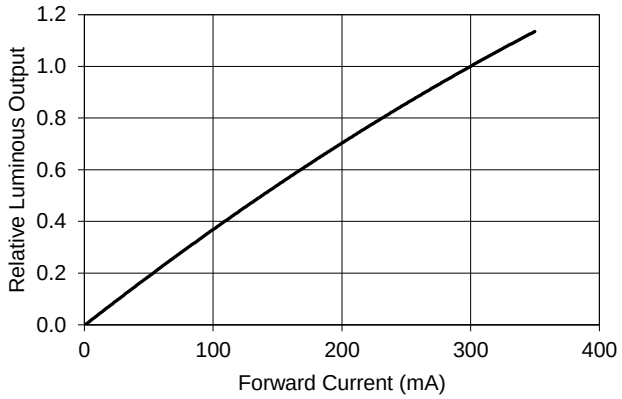
CHARACTERISTIC CURVES

ALL CHARACTERISTIC CURVES ARE FOR REFERENCE ONLY AND NOT GUARANTEED

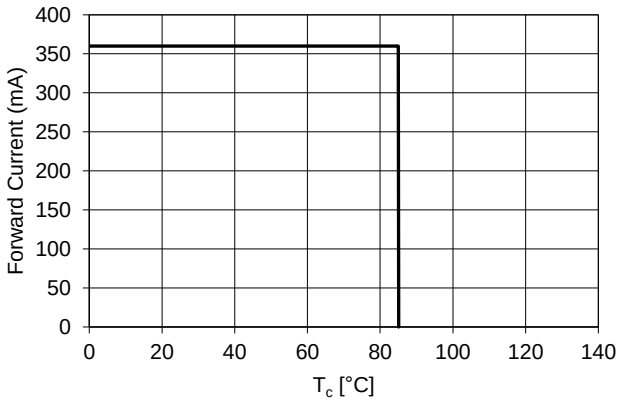
FORWARD CURRENT
VS FORWARD VOLTAGE (T_A = 25°C)



FORWARD CURRENT
VS RELATIVE LUMINOUS OUTPUT (T_A = 25°C)

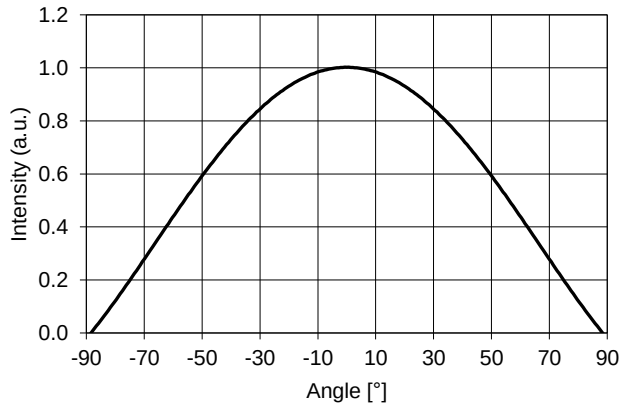


FORWARD CURRENT DERATING BASED ON CASE TEMPERATURE



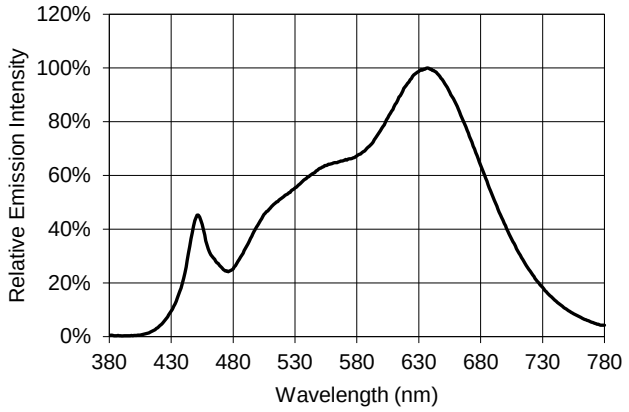
NOTE: DE-RATING CURVES ARE MEANT FOR RECOMMENDATION ONLY AND ARE NOT MEANT TO PROVIDE GUARANTEES OF PRODUCT STABILITY AND LONGEVITY

TYPICAL SPATIAL DISTRIBUTION
(T_A = 25°C, I_F = 300 mA)

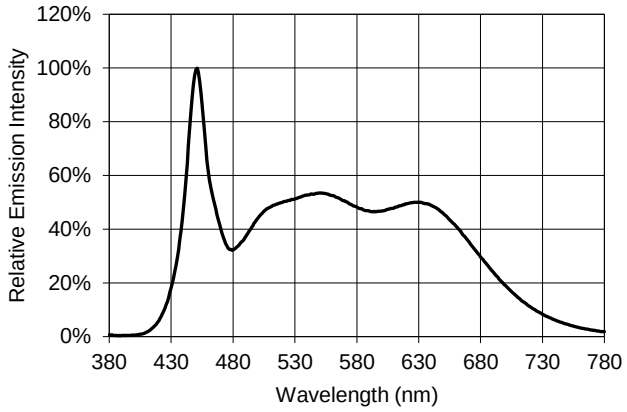


TYPICAL SPECTRAL DISTRIBUTION GRAPHS

3200K



5600K



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)