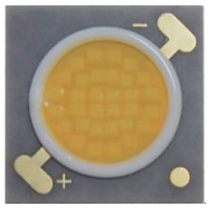
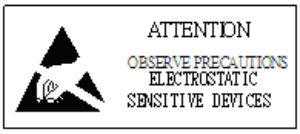
PRODUCT:

100W CHIP ON BOARD LED



FEATURES:
16 mm × 16 mm x 0.38mm chip-on-board LED
120° emission angle
95 min Ra

DESCRIPTION
Yuji LED's BC160H series high CRI COB provides high CRI, high luminous flux solution. Providing 95 CRI (typical) at 6000 lm, this high-power LED can be used in a variety of applications demanding high color quality and light output.



ELECTRICAL-OPTICAL CHARACTERISTICS (T_A = 25 °C)							
PARAMETER	SYMBOL	VALUE			UNIT	TOLERANCE	CONDITION
		MIN.	TYP.	MAX.			
Forward voltage	V_f	23	--	27	V	±0.05	I_f = 4.0A
Thermal resistance*	R_{th}	--	0.20	--	°C/W	±0.01	I_f = 4.0A
Luminous flux	Φ_{3200K}	--	5600	5600	lm	--	I_f = 4.0A
	Φ_{5600K}	--		6000			
Correlated color temperature	CCT_{3200K}	3050	3200	3350	K	--	I_f = 4.0A
	CCT_{5600K}	5300	5600	5900			
Color rendering index	Ra	95	--	--	--	±1	I_f = 4.0A
TCS R9 (CRI Red)	R9	--	90	--	--	--	I_f = 4.0A
Chromaticity coordinates	(X,Y)	--	--	--	--	±0.005	--
Reverse current	I_r	--	--	100	μA	±0.1	V_r = 40V
Viewing angle	2θ1/2	--	120	--	Deg	±5	I_f = 4.0A

*The definition of Thermal Resistance is between LED junction and COB bottom surface.
Junction Temperature $T_j = T_b + \text{Power(W)} \times R_{th}$, where Tb is the temperature at COB bottom surface.

ABSOLUTE MAXIMUM RATING (T_A = 25 °C)			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Power Consumption	P_D	100	W
DC Forward Current (pulsed)*	I_{Fp}	10000	mA
DC Forward Current	I_F	4000	mA
Reverse Voltage	V_R	40	V
Junction Temperature	T_j	150	°C
Case Temperature***	T_c	65	°C
Operating Temperature	T_{opr}	-30 ~ +60	°C
Storage Temperature	T_{stg}	-30 ~ +80	°C

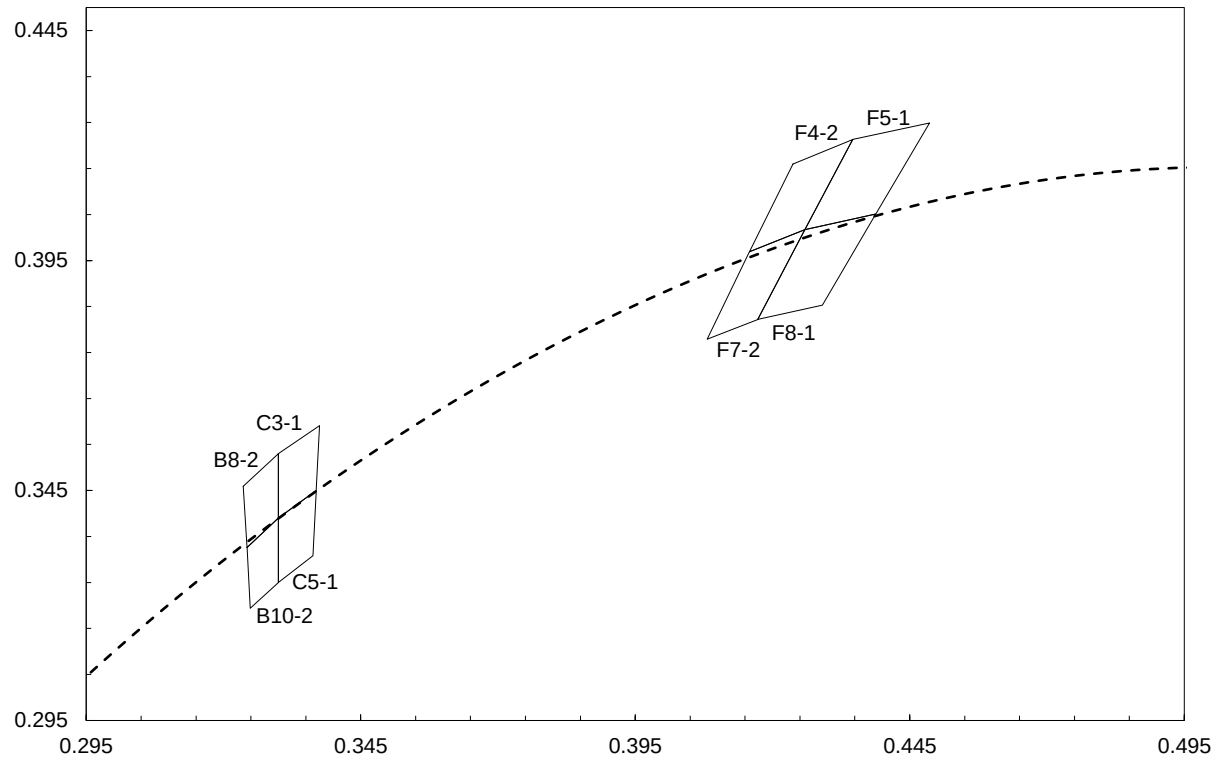
* Pulse width ≤ 0.1ms, Duty ≤ 1/10.
** Theoretical data.
*** See page 4 for case temperature point definition.

ORDERING INFORMATION		
PART NUMBER	**CCT**	**CHROMATICITY BINS**
YJ-BC-160H-G01-32	3200K ± 150K	F4-2, F7-2, F5-1, F8-1
YJ-BC-160H-G01-56	5600K ± 300K	B8-2, B10-2, C3-1, C5-1
YJ-BC-160H-G01-XX	CUSTOM	--

CHROMATICITY BINS & COORDINATES									
CCT	BIN	CIE 1931 COORDINATES							
		X0	Y0	X1	Y1	X2	Y2	X3	Y3
5600K	B8-2	0.3236	0.3459	0.3243	0.3326	0.3300	0.3390	0.3300	0.3530
	B10-2	0.3243	0.3326	0.3249	0.3194	0.3300	0.3250	0.3300	0.3390
	C3-1	0.3300	0.3530	0.3300	0.3390	0.3369	0.3450	0.3375	0.3591
	C5-1	0.3300	0.3390	0.3300	0.3250	0.3363	0.3308	0.3369	0.3450
3200K	F4-2	0.4237	0.4160	0.4158	0.3969	0.4259	0.4017	0.4346	0.4213
	F7-2	0.4158	0.3969	0.4081	0.3779	0.4173	0.3822	0.4259	0.4017
	F5-1	0.4346	0.4213	0.4259	0.4017	0.4388	0.4051	0.4486	0.4249
	F8-1	0.4259	0.4017	0.4173	0.3822	0.4291	0.3853	0.4388	0.4051

CHROMATICITY BINS & COORDINATES

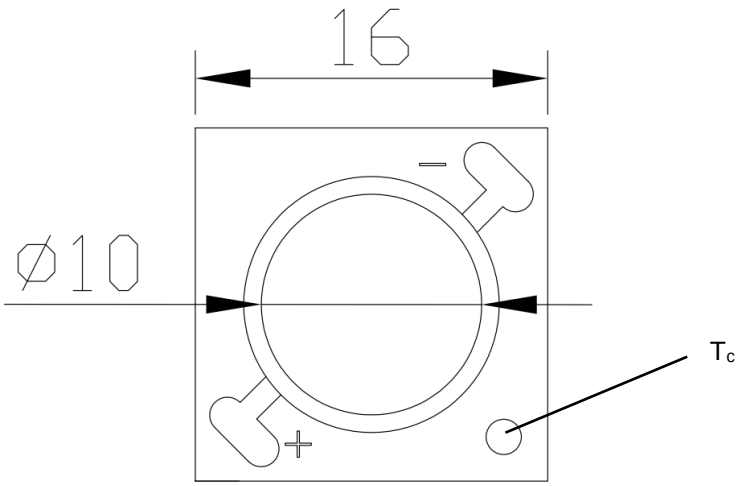
CIE 1931 COORDINATES



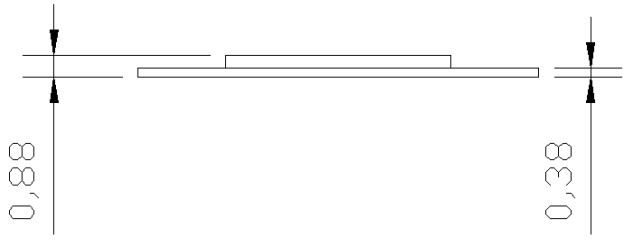
MECHANICAL DIMENSION

COB – Top View

All measurements are ±0.5mm unless otherwise indicated.



COB –Lateral View



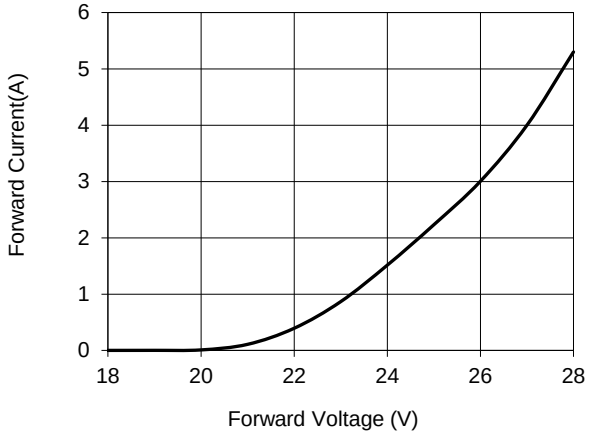
PACKAGE MATERIALS

ITEM	DESCRIPTION
DIE MATERIAL	InGaN
SUBSTRATE	AlN
ENCAPSULANT RESIN MATERIAL	SILICONE + PHOSPHOR

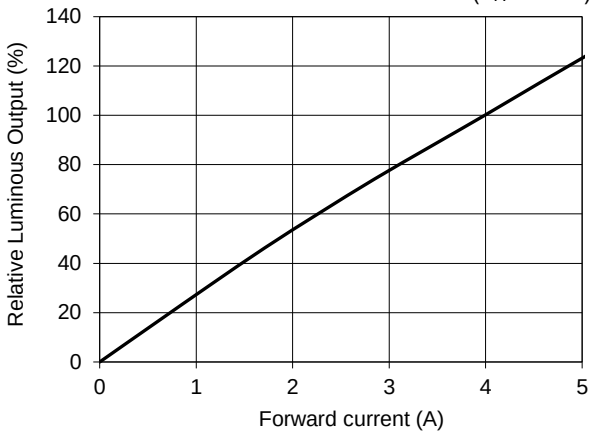
CHARACTERISTIC CURVES

ALL CHARACTERISTIC CURVES ARE FOR REFERENCE ONLY AND NOT GUARANTEED

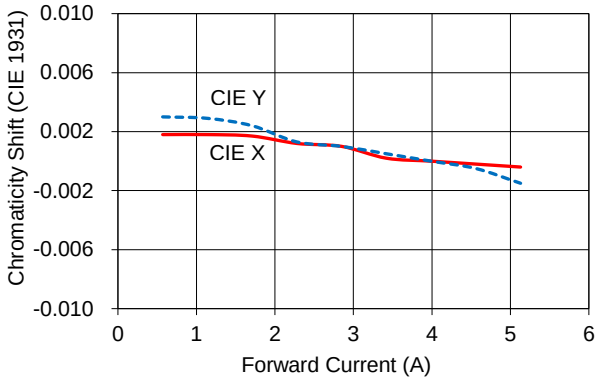
FORWARD CURRENT
VS FORWARD VOLTAGE (T_A = 25°C)



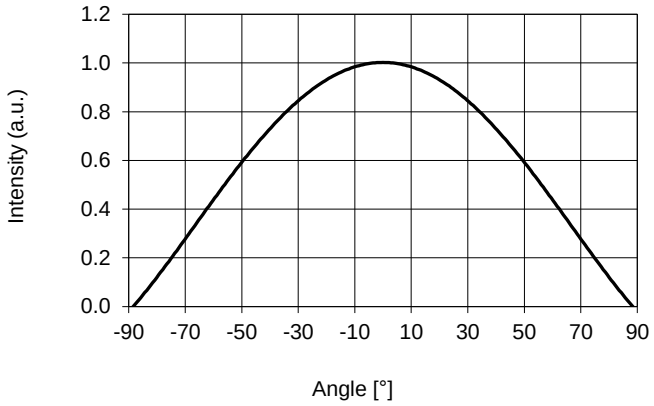
FORWARD CURRENT
VS RELATIVE LUMINOUS OUTPUT (T_A = 25°C)



FORWARD CURRENT VS CHROMATICITY SHIFT
(5600K, T_A = 25°C)

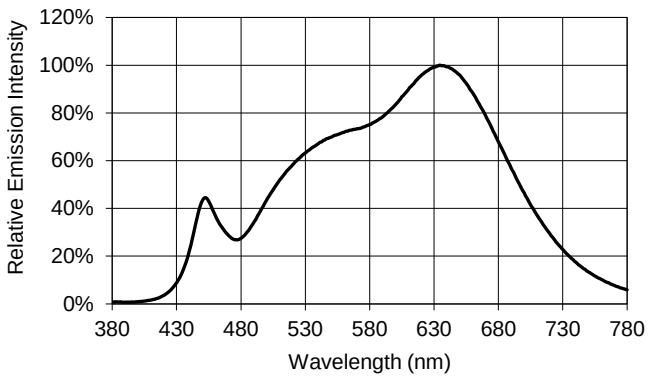


TYPICAL SPATIAL DISTRIBUTION
(T_A = 25°C, I_F = 4.0 A)



TYPICAL SPECTRAL DISTRIBUTION GRAPHS

3200K



5600K