

PRODUCT:

13.5 MM CHIP ON BOARD LED 135L

FEATURES:

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



DESCRIPTION

Yuji LED's VTC 135L COB provides true full spectrum coverage and ultra-high CRI using violet die technology. Providing 98 CRI (typical), this high-power 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	17	--	21	V	±0.05	I _f = 450mA
Luminous flux	Φ _{3200K}	497	--	536	lm	--	I _f = 450mA
	Φ _{5600K}	585	--	630			
Color temperature	CCT _{3200K}	3050	3200	3350	K	--	I _f = 450mA
	CCT _{5600K}	5300	5600	5900			
Color rendering index	Ra	95	98	--	--	±1	I _f = 450mA
TCS R9 (CRI Red)	R9	--	90	--	--	--	I _f = 450mA
Chromaticity coordinates	(X,Y)	--	--	--	--	±0.005	--
Reverse current	I _r	--	--	20	μA	±0.1	V _r = 30V
Viewing angle	2θ1/2	--	120	--	Deg	±5	I _f = 450mA

ORDERING INFORMATION		
PART NUMBER	CCT	CHROMATICITY BINS
YJ-VTC-135L-G01-32	3200K ± 150K	VF4-2, VF7-2, VF5-1, VF8-1
YJ-VTC-135L-G01-56	5600K ± 300K	VB8-2, VB10-2, VC3-1, VC5-1
YJ-VTC-135L-G01-XX	CUSTOM	



VOLTAGE BIN CODES	
Bin	V14
V _F	17-21

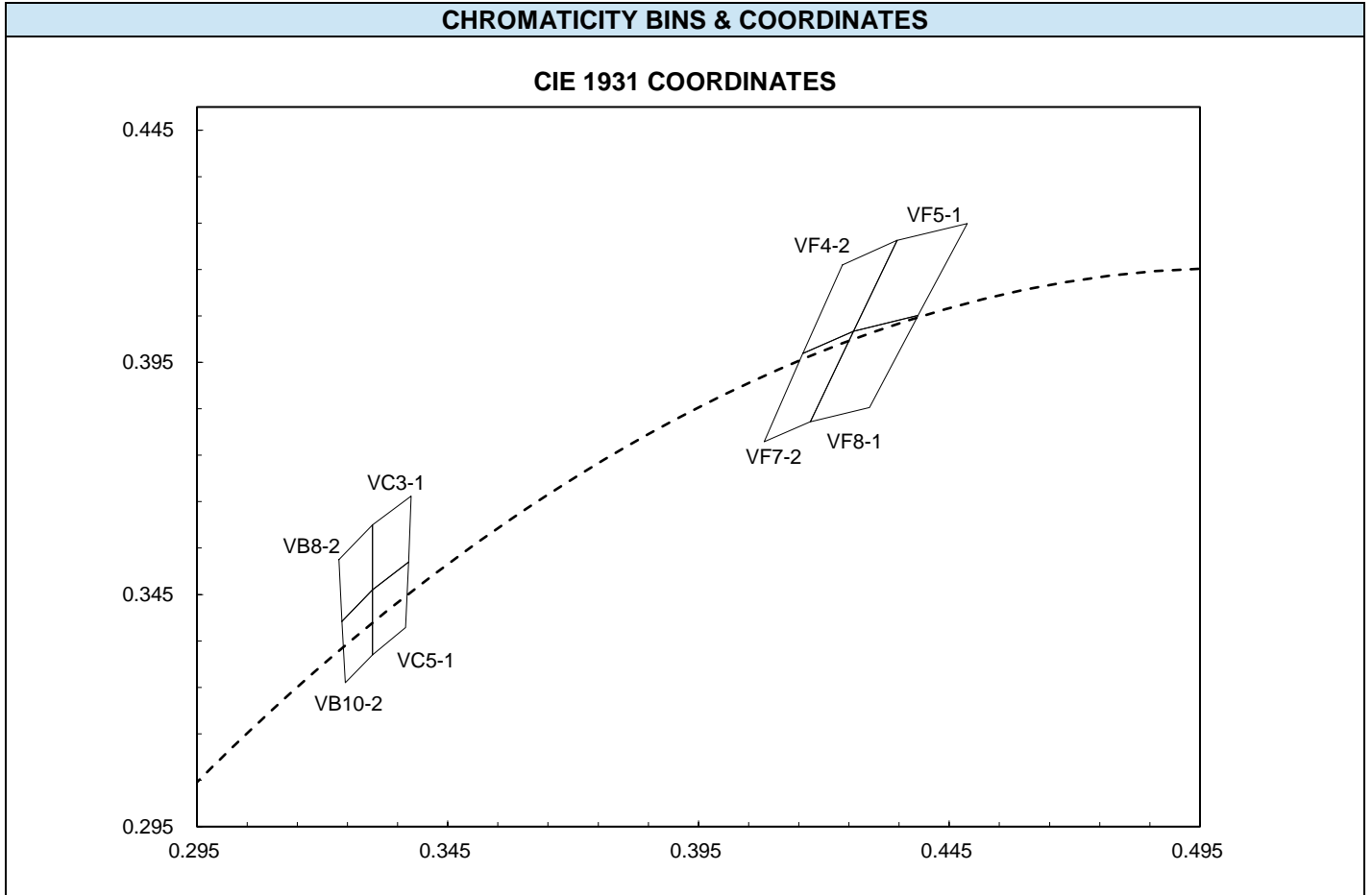
ABSOLUTE MAXIMUM RATING (T _A = 25 °C)			
PARAMETER	SYMBOL	LIMIT	UNIT
Power Consumption	P _D	12160	mW
DC Forward Current (pulsed)*	I _{Fp}	1800**	mA
DC Forward Current	I _F	600	mA
Reverse Voltage	V _R	30	V
Junction Temperature	T _j	125	°C
Case Temperature***	T _c	85	°C
Operating Temperature	T _{opr}	-20 ~ +75	°C
Storage Temperature	T _{stg}	-30 ~ +80	°C
Soldering Temperature	T _{sol}	260 ± 5	°C
Reflow Cycles Allowed	--	2	--

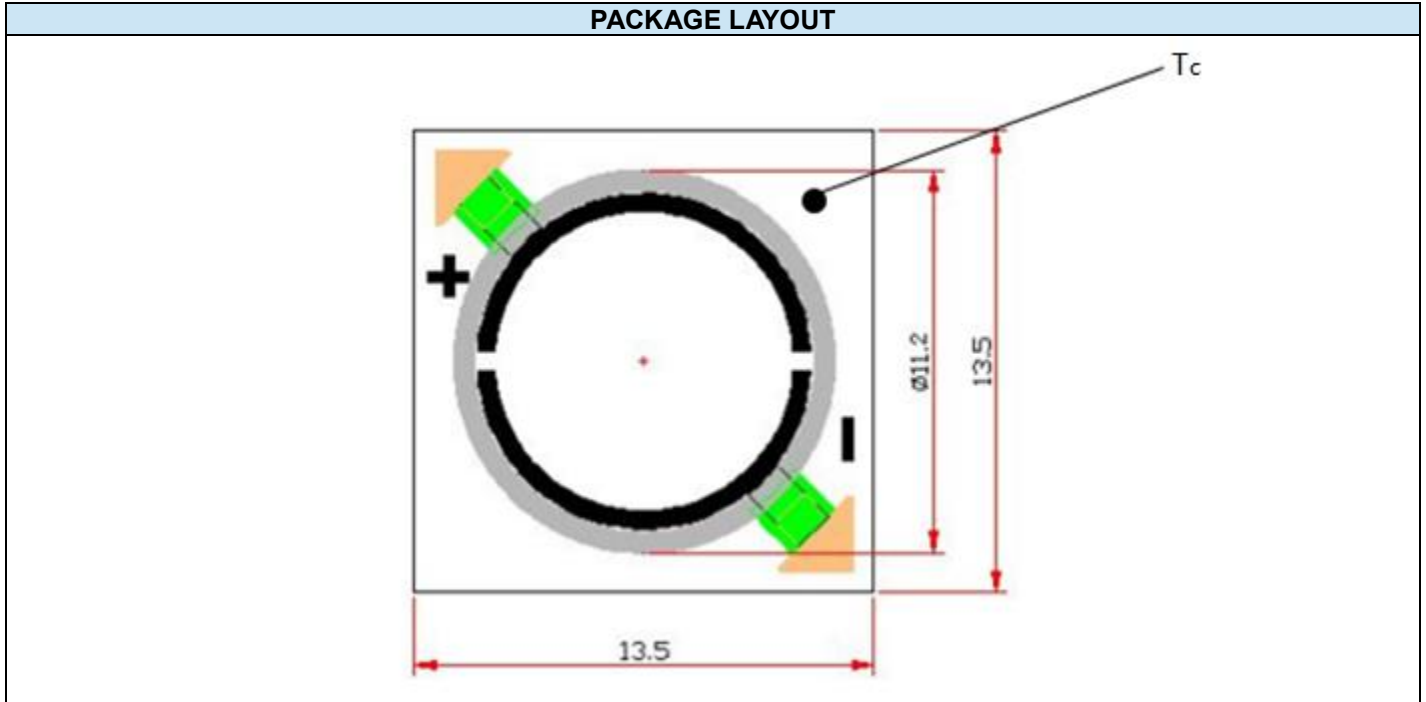
* Pulse width ≤ 0.1ms, Duty ≤ 1/10.

** Theoretical data.

*** See page 4 for solder point definition.

CHROMATICITY BINS & COORDINATES									
CCT	BIN	CIE 1931 COORDINATES							
		X0	Y0	X1	Y1	X2	Y2	X3	Y3
5600K	VB8-2	0.3233	0.3525	0.3239	0.3392	0.3300	0.3460	0.3300	0.3600
	VB10-2	0.3239	0.3392	0.3246	0.3260	0.3300	0.3320	0.3300	0.3460
	VC3-1	0.3300	0.3600	0.3300	0.3460	0.3372	0.3520	0.3377	0.3662
	VC5-1	0.3300	0.3460	0.3300	0.3320	0.3366	0.3379	0.3372	0.3520
3200K	VF4-2	0.4237	0.4160	0.4158	0.3969	0.4259	0.4017	0.4346	0.4213
	VF7-2	0.4158	0.3969	0.4081	0.3779	0.4173	0.3822	0.4259	0.4017
	VF5-1	0.4346	0.4213	0.4259	0.4017	0.4388	0.4051	0.4468	0.4249
	VF8-1	0.4259	0.4017	0.4173	0.3822	0.4291	0.3853	0.4388	0.4051



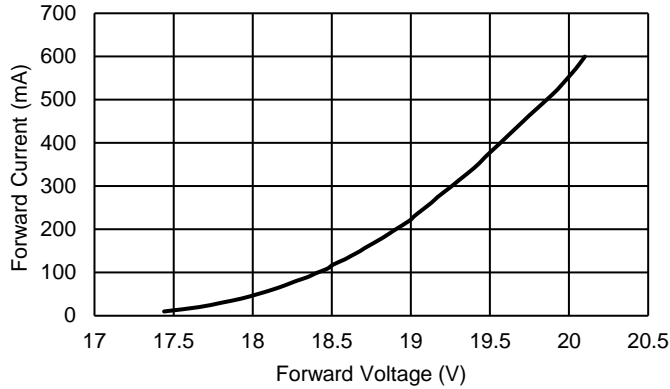


PACKAGE MATERIALS	
ITEM	DESCRIPTION
DIE MATERIAL	InGaN
LEAD FRAME MATERIAL	CERAMIC
ENCAPSULANT RESIN MATERIAL	SILICONE

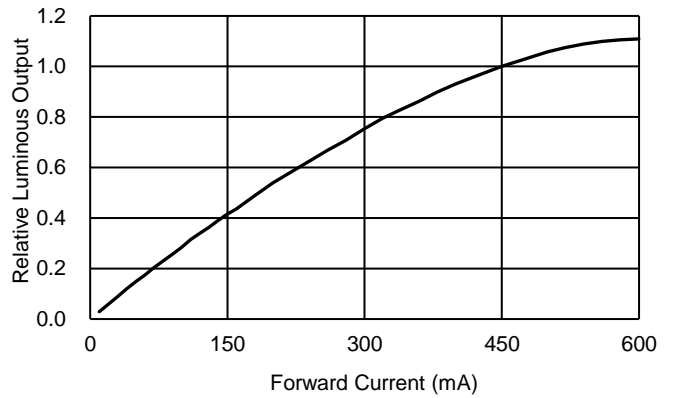
CHARACTERISTIC CURVES

ALL CHARACTERISTIC CURVES ARE FOR REFERENCE ONLY AND NOT GUARANTEED

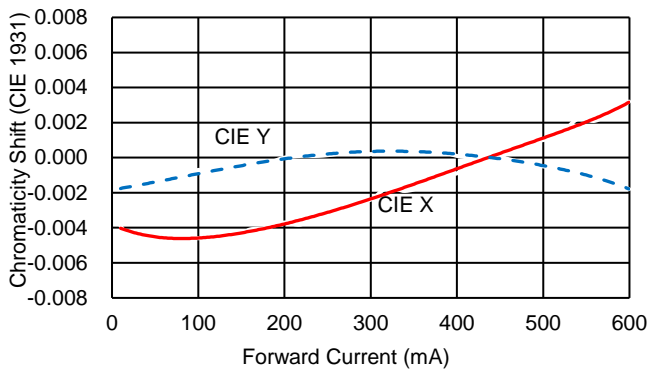
FORWARD CURRENT VS FORWARD VOLTAGE ($T_A = 25^\circ\text{C}$)



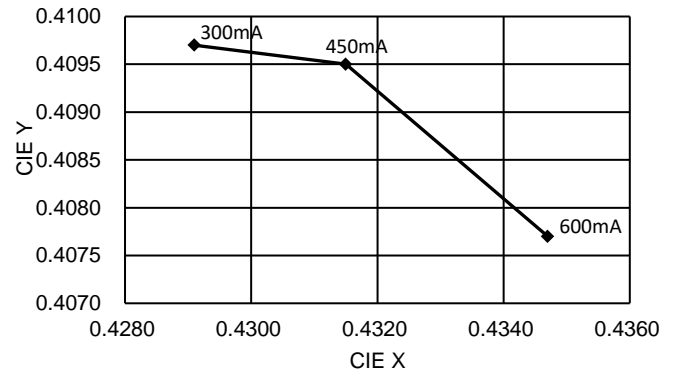
FORWARD CURRENT VS RELATIVE LUMINOUS OUTPUT ($T_A = 25^\circ\text{C}$)



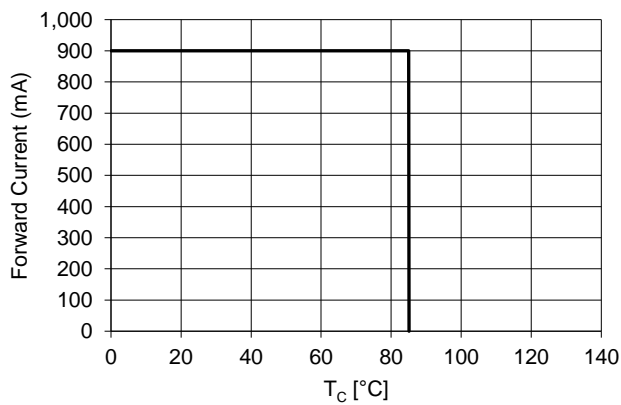
FORWARD CURRENT VS CHROMATICITY SHIFT (3200K, $T_A = 25^\circ\text{C}$)



FORWARD CURRENT VS CHROMATICITY (3200K, $T_A = 25^\circ\text{C}$)

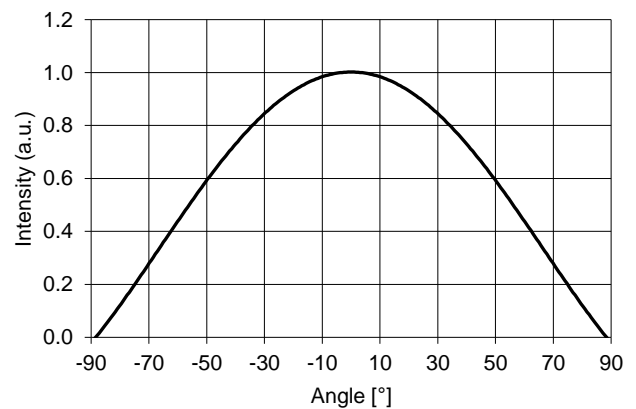


FORWARD CURRENT DERATING BASED ON CASE POINT

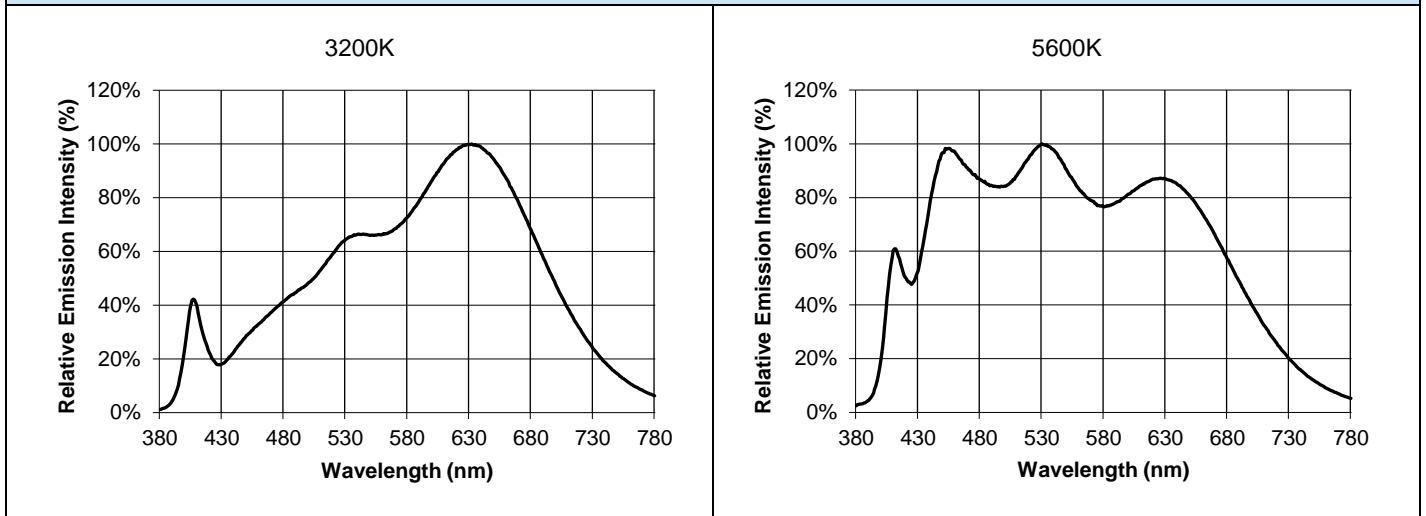


NOTE: DE-RATING CURVES ARE MEANT FOR RECOMMENDATION ONLY AND ARE NOT MEANT TO PROVIDE GUARANTEES OF PRODUCT STABILITY AND LONGEVITY

TYPICAL SPATIAL DISTRIBUTION ($T_A = 25^\circ\text{C}$, $I_F = 450\text{ mA}$)



TYPICAL SPECTRAL DISTRIBUTION GRAPHS



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)