

# Technical Data Sheet

## 5 mm Round White LED (T-1 3/4)

**334-15/T2CX-XXXB**

### Features

- Popular T-13/4 colorless 5mm package.
- High luminous power.
- Bulk, available taped on reel.
- The product itself will remain within RoHS compliant version.
- ESD-withstand voltage: up to 4KV



### Descriptions

- The series is designed for application required high luminous intensity.
- The phosphor filled in the reflector converts the blue emission of InGaN chip to ideal white.

### Applications

- Outdoor Displays
- Optical Indicators
- Backlighting
- Marker Lights

### Device Selection Guide

PART NO.	Chip		Lens Color
	Material	Emitted Color	
334-15/T2CX-XXXB	InGaN	White	Water Clear

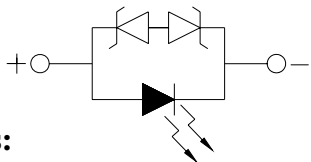
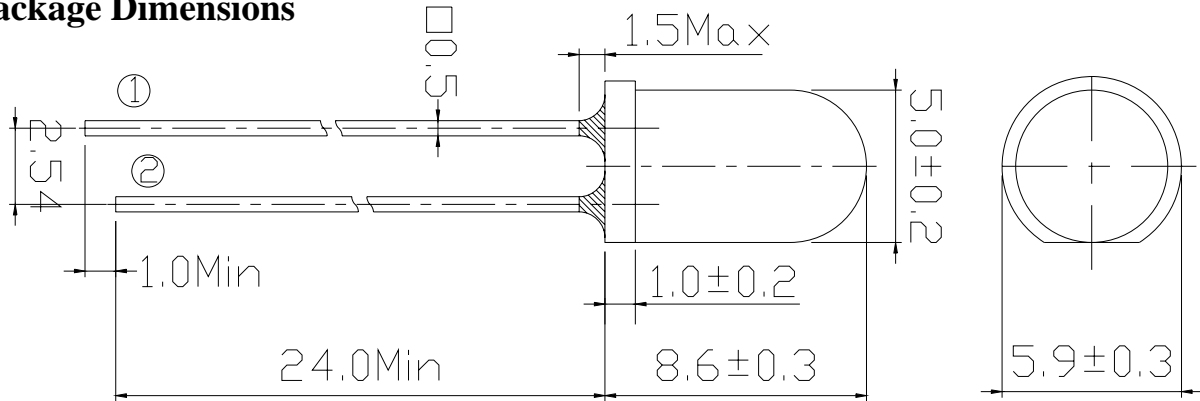


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### Package Dimensions



① Anode  
 ② Cathode

### Notes:

- 1.All dimensions are in millimeters, and tolerance is 0.25mm except being specified.
- 2.Lead spacing is measured where the lead emerges from the package.
- 3.Protruded resin under flange is 1.5mm Max. LED.

### Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I <sub>F</sub>	25	mA
Peak Forward Current(Duty /10 @ 1KHZ)	I <sub>FP</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Soldering Temperature (T=5 sec)	T <sub>sol</sub>	260 ± 5	°C
Power Dissipation	P <sub>d</sub>	100	mW
Zener Reverse Current	I <sub>Z</sub>	100	mA
Electrostatic Discharge	ESD	4K	V



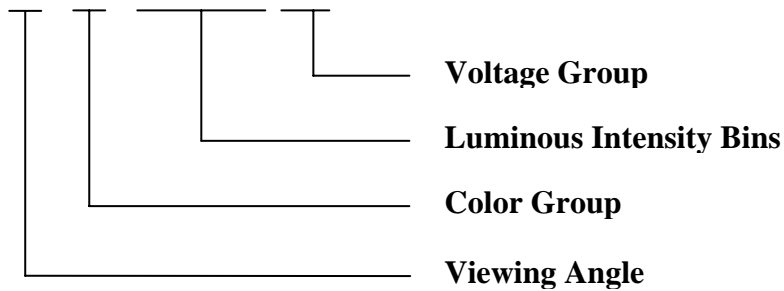
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### Production Designation

334-15/T2CX-□ □ □ □



### Electro Characteristics (Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	--	3.5	4.0	V
Zener Reverse Voltage	V <sub>Z</sub>	I <sub>Z</sub> =5mA	5.8	--	--	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	50	uA



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### 334-15/T2CX-XXXB

#### Optical Characteristics (Ta=25°C)

Device Type	Luminous Intensity (mcd)			Chromaticity Coordinates(Typ.)		Viewing Angle (degree) Typ.
	Min.	Typ.	Max.	X	Y	
				334-15/T2C1-2UWB	9000	--
334-15/T2C1-4UWB	9000	--	18000	0.30	0.29	
334-15/T2C1-6UWB	9000	--	18000	0.33	0.34	
334-15/T2C1-1UWB	9000	--	18000	0.29	0.28	
334-15/T2C2-2TWB	7150	--	18000	0.26	0.27	20
334-15/T2C2-4TWB	7150	--	18000	0.30	0.29	
334-15/T2C2-6TWB	7150	--	18000	0.33	0.34	
334-15/T2C2-1TWB	7150	--	18000	0.29	0.28	
334-15/T2C3-2RTB	4500	--	9000	0.26	0.27	30
334-15/T2C3-4RTB	4500	--	9000	0.30	0.29	
334-15/T2C3-6RTB	4500	--	9000	0.33	0.34	
334-15/T2C3-1RTB	4500	--	9000	0.29	0.28	
334-15/T2C5-2NQB	2250	--	4500	0.26	0.27	50
334-15/T2C5-4NQB	2250	--	4500	0.30	0.29	
334-15/T2C5-6NQB	2250	--	4500	0.33	0.34	
334-15/T2C5-1NQB	2250	--	4500	0.29	0.28	



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#### Luminous Intensity Combination (mcd at 20mA)

Rank	Min	Max
M	1800	2250
N	2250	2850
P	2850	3600
Q	3600	4500
R	4500	5650
S	5650	7150
T	7150	9000
U	9000	11250
V	11250	14250
W	14250	18000

\*Measurement Uncertainty of Luminous Intensity:  $\pm 15\%$

#### Forward Voltage Combination (V at 20mA)

Group	B				
Rank	1	2	3	4	5
Min.	3.00	3.20	3.40	3.60	3.80
Max.	3.20	3.40	3.60	3.80	4.00

\*Measurement Uncertainty of Forward Voltage :  $\pm 0.1V$

#### Color Combination ( at 20mA)

Group	Bins
1	A0+A1+B3+B4+B5+B6+C0
2	A1+A0
4	A0+B5+B6
6	B5+B6+C0

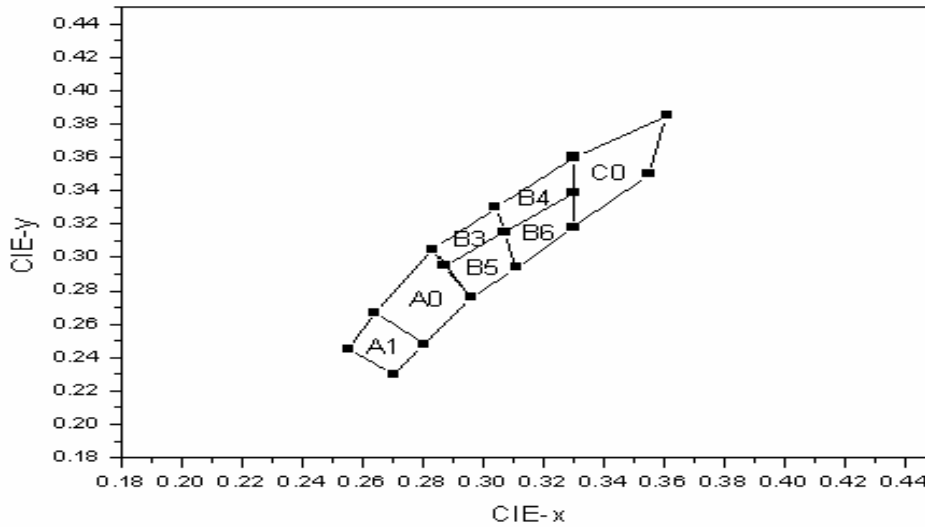


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## 5 mm Round White LED (T-1 3/4)

**334-15/T2CX-XXXB**

### CIE Chromaticity Diagram



### Color Ranks (IF=20mA , Ta=25°C)

Color Ranks		CIE			
A1	X	0.255	0.264	0.28	0.27
	Y	0.245	0.267	0.248	0.23
A0	X	0.264	0.283	0.296	0.28
	Y	0.267	0.305	0.267	0.248
B3	X	0.283	0.304	0.307	0.287
	Y	0.305	0.33	0.315	0.295
B4	X	0.304	0.33	0.33	0.307
	Y	0.33	0.36	0.339	0.315
B5	X	0.287	0.307	0.311	0.296
	Y	0.295	0.315	0.294	0.276
B6	X	0.307	0.33	0.33	0.311
	Y	0.315	0.339	0.318	0.294
C0	X	0.33	0.361	0.355	0.33
	Y	0.36	0.385	0.35	0.318

\*Measurement uncertainty of the color coordinates :  $\pm 0.01$



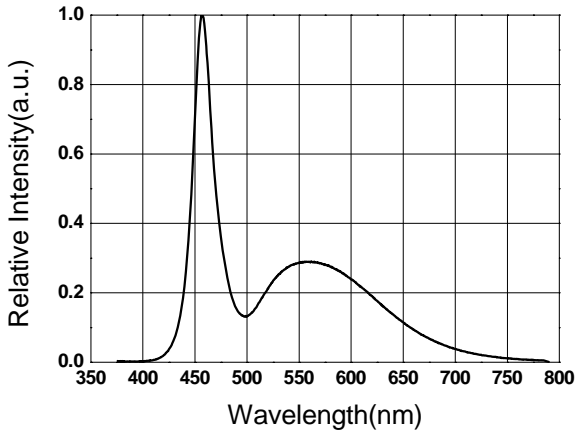
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## 5 mm Round White LED (T-1 3/4)

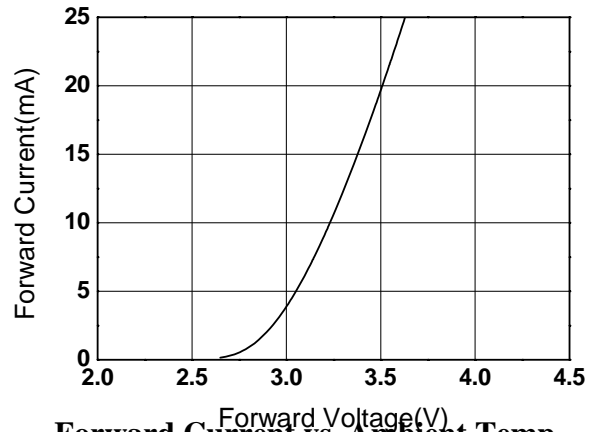
### 334-15/T2CX-XXXB

#### Typical Electro-Optical Characteristics Curves

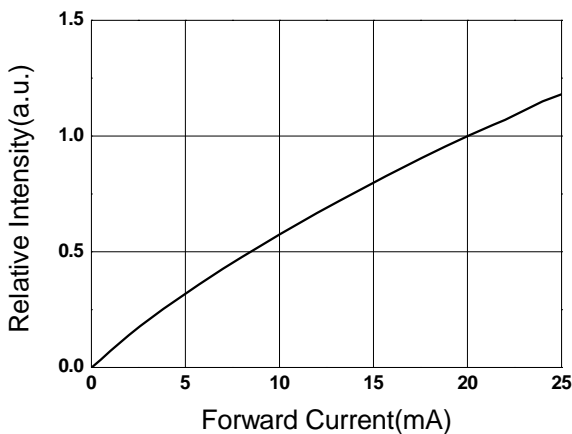
Relative Intensity vs. Wavelength



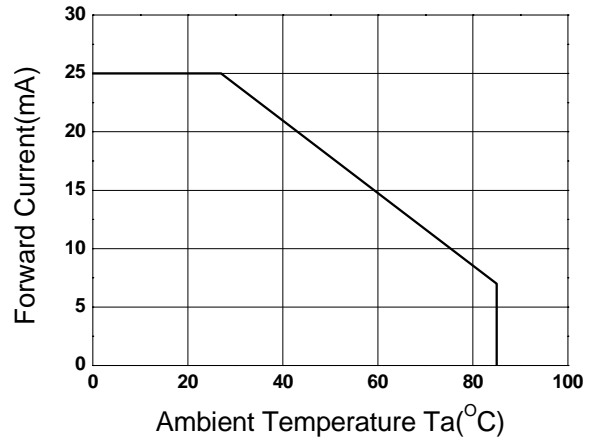
Forward Current vs. Forward Voltage



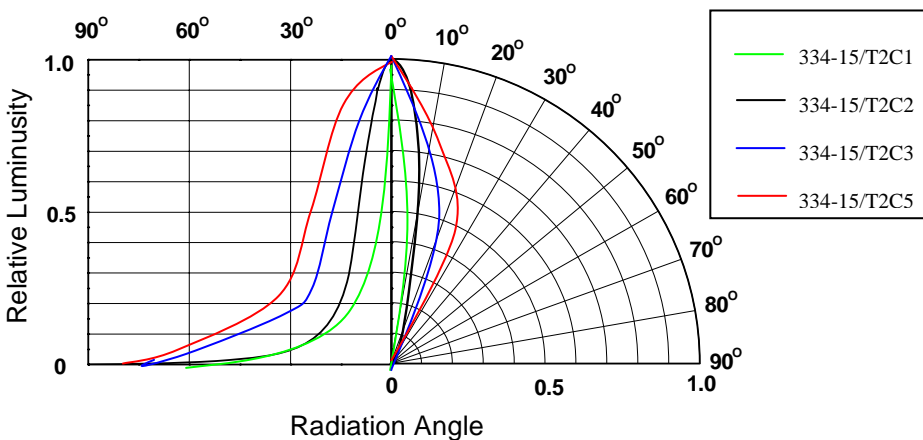
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temp.



Relative Intensity vs. Angle Displacement





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**334-15/T2CX-XXXB**

### Label Form Specification

EVERLIGHT	
CPN:	
P/N:	
	RoHS
334-15/T2CX-XXXB	
QTY :	CAT:
	HUE:
LOT NO :	REF:
	
MADE IN TAIWAN	

CPN: Customer's Production Number  
P/N : Production Number  
QTY: Packing Quantity  
CAT: Ranks  
HUE: Space  
REF: Reference  
LOT No: Lot Number  
MADE IN TAIWAN: Production Place



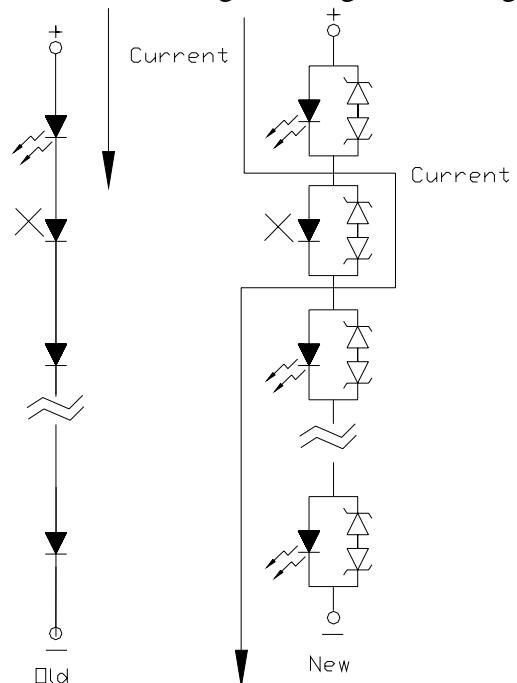
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### Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.
4. Below the zener reference voltage  $V_z$ , all the current flows through LED and as the voltage rises to  $V_z$ , the zener diode "breakdown." If the voltage tries to rise above  $V_z$  current flows through the zener branch to keep the voltage at exactly  $V_z$ .
5. When the LED is connected using serial circuit, if either piece of LED is no light up but current can't flow through causing others to light down. In new design, the LED is parallel with zener diode. if either piece of LED is no light up but current can flow through causing others to light up.



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