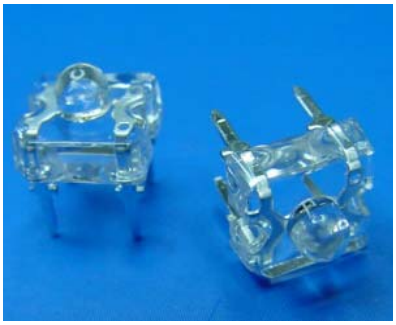
Technical Data Sheet
3mm POWER LED

31-01/T4C-4PRB

Features



. High Flux Output.
. Low Profile.
. Low Thermal Resistance.
. Low Power Consumption
. The phosphor filled in the reflector converts the blue emission of InGaN chip to ideal white.
.Typical chromaticity coordinates x=0.30, y=0.29 according to CIE1931
.The product itself will remain within RoHS compliant version.
. ESD-withstand voltage: up to 4KV

Descriptions

This revolutionary package design allows the light designer to reduce the number of LEDs required and provide a more uniform and unique illuminated appearance than with other LED solutions. This is possible through the efficient optical package design and high-current capabilities.

The low profile package can be easily coupled with reflectors or lenses to efficiently distribute light and provide the desired light appearance.

Applications

. Automotive Lighting
. Electronic Signs and Signals
. Special Lighting application

Device Selection Guide

PART NO.	Chip		Lens Color
	Material	Emitted Color	
31-01/T4C-4PRB	InGaN	White	Water Clear

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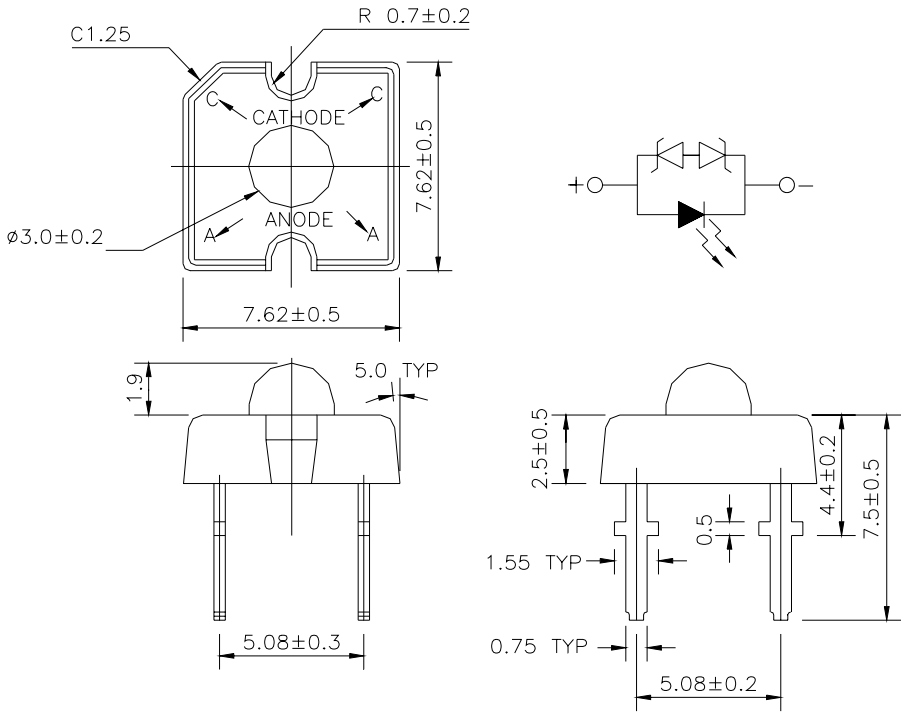
Package Dimensions



Notes: 1.All dimensions are in millimeters

2.An epoxy meniscus may extend about 1.5mm(0.059") down the leads

3.Tolerances unless dimensions ±0.25mm

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	30	mA
Peak Forward Current(Duty 1/10 @ 1KHZ)	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Soldering Temperature(Time=5 sec)	T_{sol}	260 ± 5	℃
Power Dissipation	P_d	100	mW
Electrostatic Discharge	ESD	4000	V

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Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Condition	Unit
Forward Voltage	VF	3.0	3.6	4.0	IF=30mA	V
Reverse Current	IR	----	----	10	VR=5V	mA
Total Flux	Φv	2850	4000	5650	IF=30mA	mlm
Viewing Angle	2θ 1/2	----	45	----	IF=30mA	deg
Chromaticity Coordinates	x	----	0.30	----	IF=30mA	----
	y	----	0.29	----		----
Zener Reverse Voltage	Vz	5.2	----	----	Iz=5mA	V

Rank

31-01/T4C-4PRB (1) (2) (3)

(1) VF(V)			(2) Color			(3) Φv(mlm)		
Bin.	Min.	Max.	Bin.	Min.	Max.	Bin.	Min.	Max.
1	3.00	3.20	A0	----	----	P	2850	3600
2	3.20	3.40	B5	----	----	Q	3600	4500
3	3.40	3.60	B6	----	----	R	4500	5650
4	3.60	3.80						
5	3.80	4.00						

*Measurement Uncertainty of Forward Voltage：±0.1V

*Measurement Uncertainty of Luminous Intensity: ±15%

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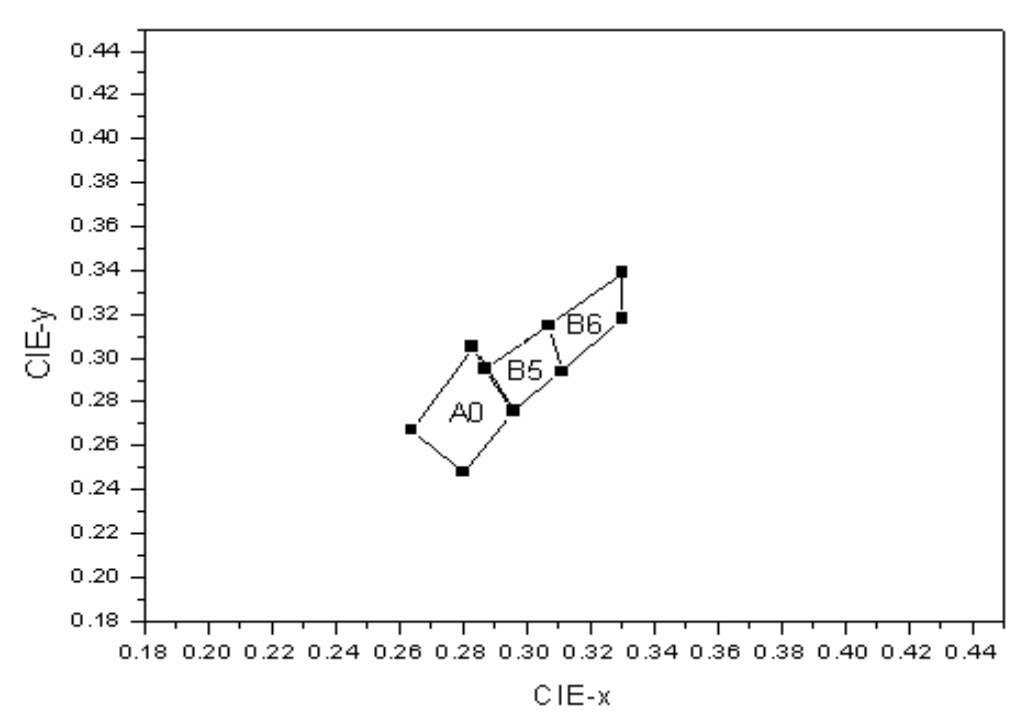
CIE Chromaticity Diagram



Color Ranks (IF=30mA，Ta=25℃)

Color Ranks		CIE Rank			
A0	X	0.280	0.264	0.283	0.296
	Y	0.248	0.267	0.305	0.276
B5	X	0.296	0.287	0.307	0.311
	Y	0.276	0.295	0.315	0.294
B6	X	0.311	0.307	0.330	0.330
	Y	0.294	0.315	0.339	0.318

*Measurement uncertainty of the color coordinates：±0.01

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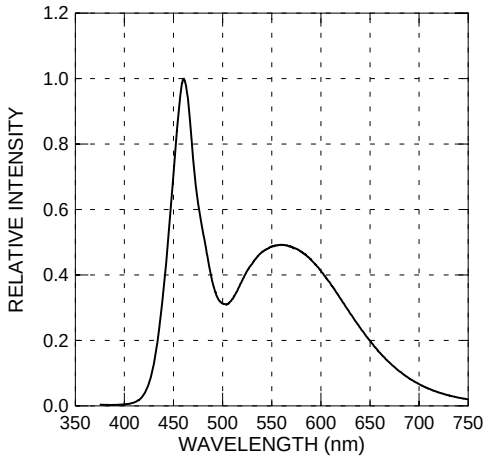
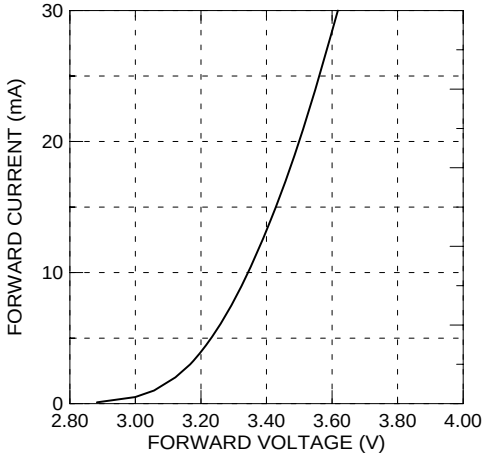
Typical Electro-Optical Characteristics Curves

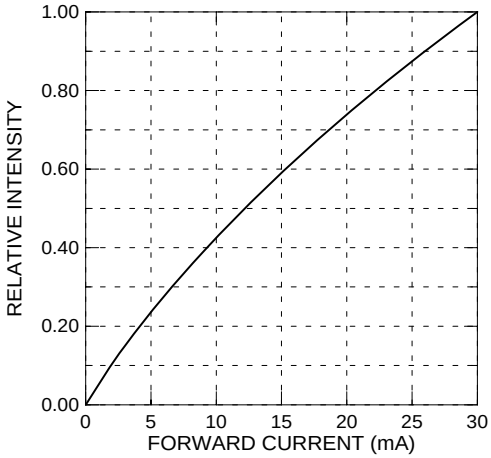
Relative Intensity vs. Wavelength



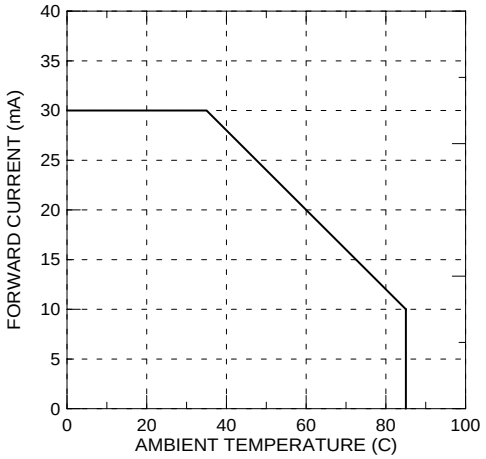
Forward Current vs. Forward Voltage



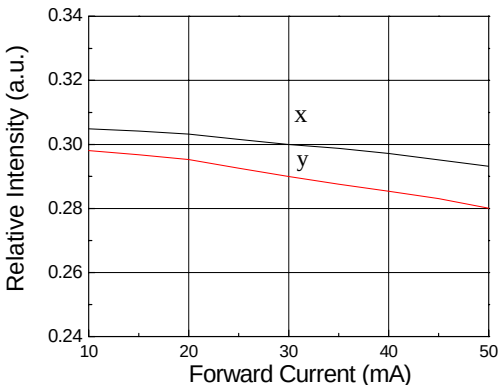
Relative Intensity vs. Forward Current



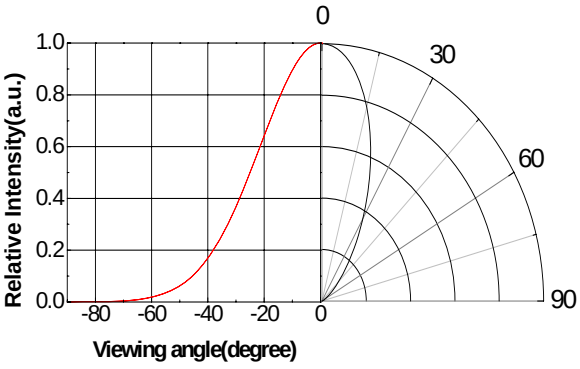
Forward Current vs. Ambient Temp.



Chromaticity Coordinate vs. Forward Current



Radiation Characteristics



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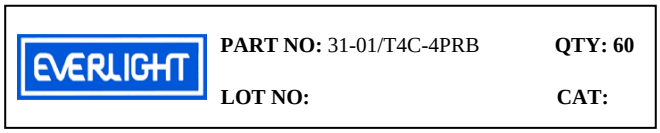
Packing Quantity Specification

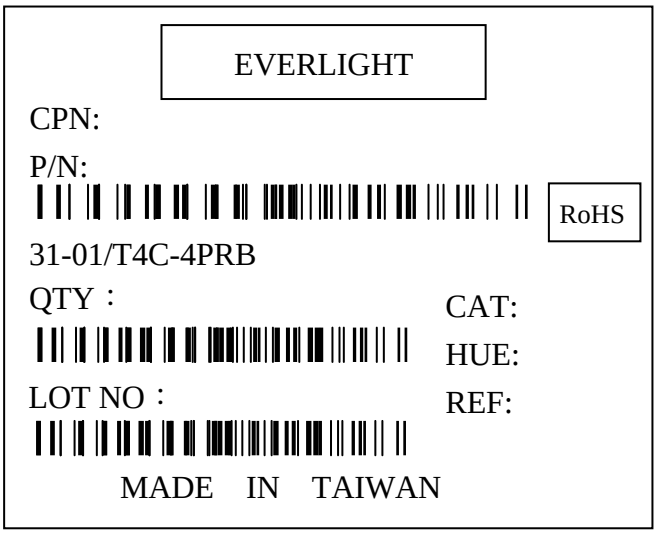
(1) 60 pcs/1 tube, 30 tubes/1 small inside box, 12 small inside boxes/1 outside box
(2) 60 pcs/1 tube, 105 tubes/1 big inside box, 4 big inside boxes/1 outside box

Label Form Specification

(1)Tube Label Form



(2)Box Label Form



PART NO: Everlgiht's Production Number
QTY: Packing Quantity
LOT NO: Lot Number
CAT: Ranks of Forward Voltage, Color Bin Grade and Total Flux
CPN: Customer's Production Number
P/N : Production Number
HUE: Reference
REF: Reference
MADE IN TAIWAN: Production Place

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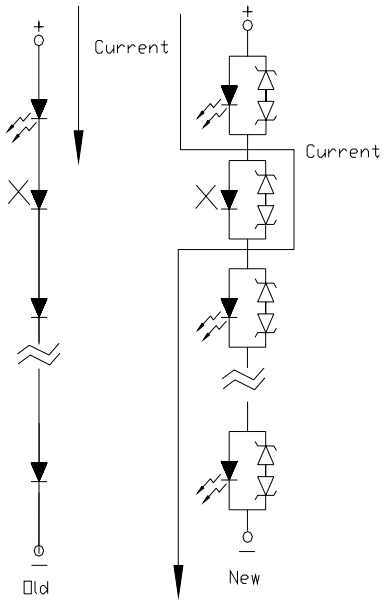
Notes

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 Vz, all the current flows through LED and as the voltage rises to Vz, the zener diode "breakdown." If the voltage tries to rise above Vz current flows through the zener branch to keep the voltage at exactly Vz.
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.



6. Soldering Condition

Careful attention should be paid during soldering. When soldering, leave more then 3mm from solder joint to case, and soldering beyond the base of the tie bar is recommended.

Avoiding applying any stress to the lead frame while the LEDs are at high temperature particularly when soldering.

Recommended soldering conditions:

Hand Soldering		DIP Soldering	
Temp. at tip of iron	400℃ Max. (30W Max.)	Preheat temp.	100℃ Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp.	265 Max.
Distance	3mm Min.(From solder joint to case)	Bath time.	5 sec Max.
		Distance	3mm Min.

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