Technical Data Sheet

204-15/T1C2-2QTA

Features

- Popular T-1 colorless package.
- High luminous power.
- Typical chromaticity coordinates x=0.26, y=0.27 according to CIE1931.
- Bulk, available taped on reel.
- ESD-withstand voltage: up to 4KV
- The product itself will remain within RoHS compliant version.

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.

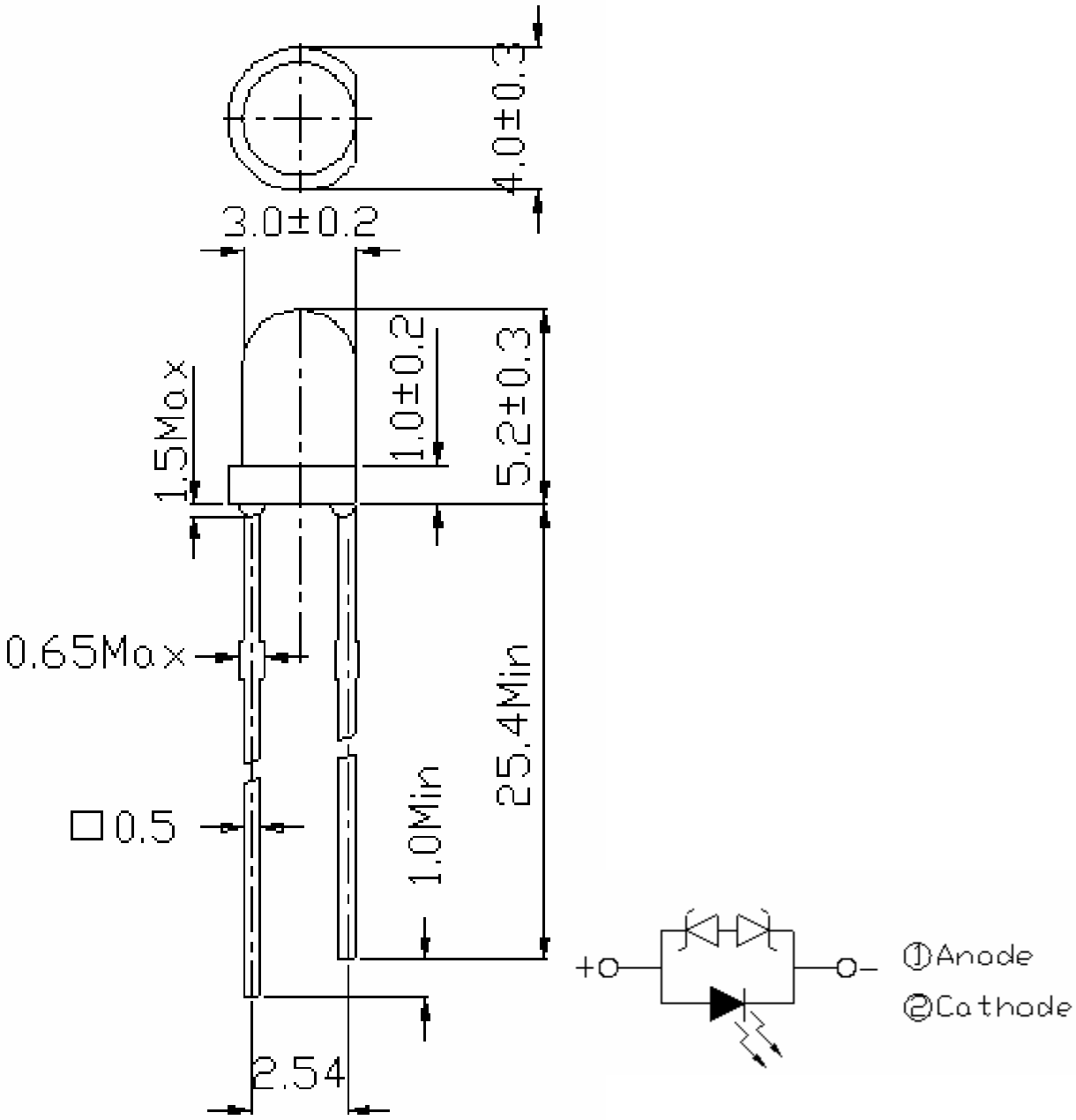
Applications

- Message panels
- Optical Indicators
- Backlighting
- Marker Lights

Device Selection Guide

PART NO.	Chip		Lens Color
	Material	Emitted Color	
204-15/T1C2-2QTA	InGaN	White	Water Clear

Package Dimensions



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.

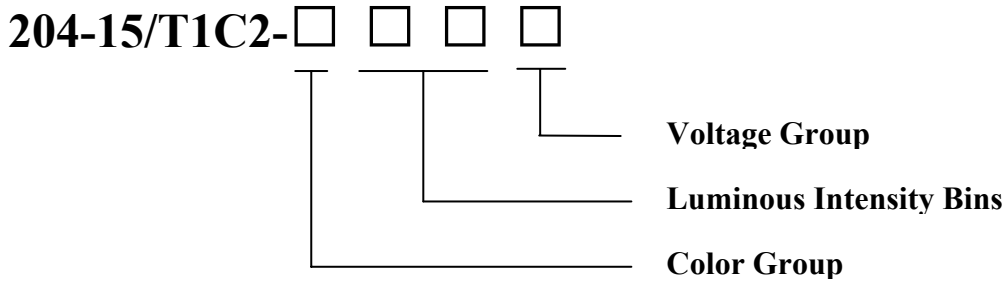
3.Protruded resin under flange is 1.5mm Max. LED.

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	30	mA
Peak Forward Current(Duty /10 @ 1KHZ)	I_{FP}	100	mA
Zener Reverse Current	Iz	100	mA
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Reverse Voltage	V_R	5	V
Soldering Temperature (T=5 sec)	T_{sol}	260 ± 5	℃
Power Dissipation	P_d	100	mW
Electrostatic Discharge	ESD	4K	V

204-15/T1C2-2QTA

Production Designation



Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage	V_F	I_F=20mA	2.8	--	3.6	V
Reverse Current	I_R	V_R=5V	--	--	50	uA
Zener Reverse Voltage	Vz	Iz=5mA	5.2	--	--	V
Luminous Intensity	I_V	I_F=20mA	3600	--	9000	mcd
Viewing Angle	2θ1/2	I_F=20mA	--	25	--	deg
Chromaticity Coordinates	x	I_F=20mA	--	0.26	--	--
	y		--	0.27	--	--

Luminous Intensity Combination (mcd at 20mA)

Rank	Min	Max
Q	3600	4500
R	4500	5650
S	5650	7150
T	7150	9000

*Measurement Uncertainty of Luminous Intensity: ±15%

Forward Voltage Combination (V at 20mA)

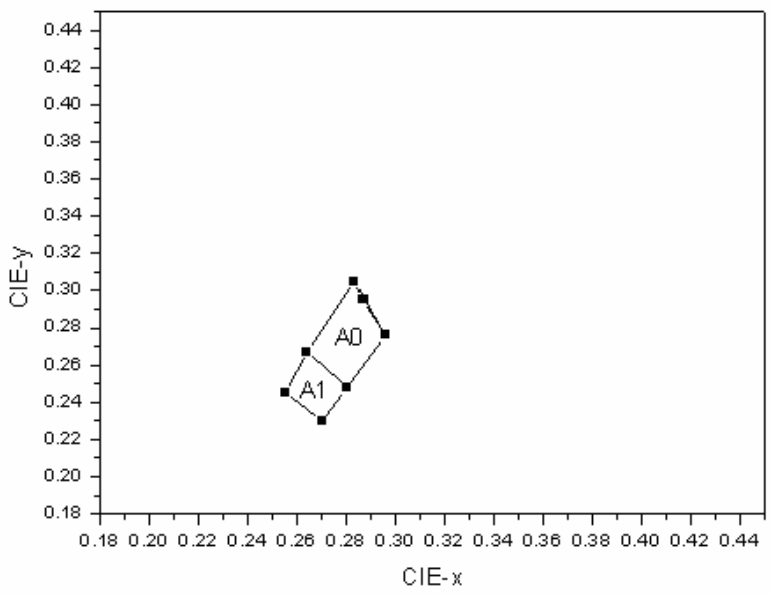
Group	A			
Rank	0	1	2	3
Min.	2.80	3.00	3.20	3.40
Max.	3.00	3.20	3.40	3.60

*Measurement Uncertainty of Forward Voltage：±0.1V

Color Combination (at 20mA)

Group	Bins
2	A1+A0

CIE Chromaticity Diagram



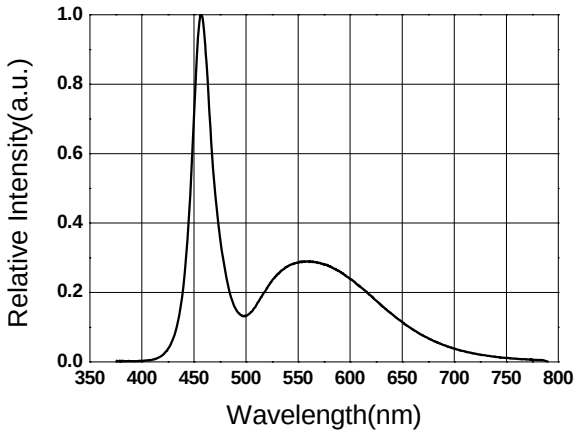
Color Ranks (IF=20mA，Ta=25℃)

*Measurement uncertainty of the color coordinates：±0.01

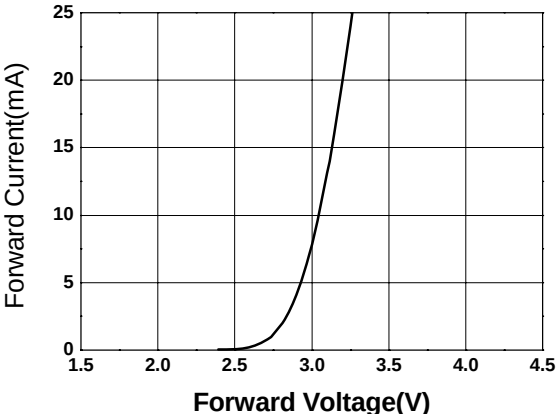
Color Ranks		CIE			
A1	X	0.255	0.264	0.28	0.27
	Y	0.245	0.267	0.248	0.23
A0	X	0.264	0.283	0.296	0.28
	Y	0.267	0.305	0.267	0.248

Typical Electro-Optical Characteristics Curves

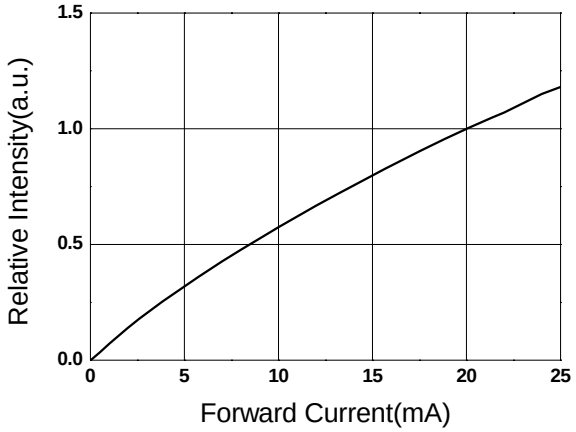
Relative Intensity vs. Wavelength



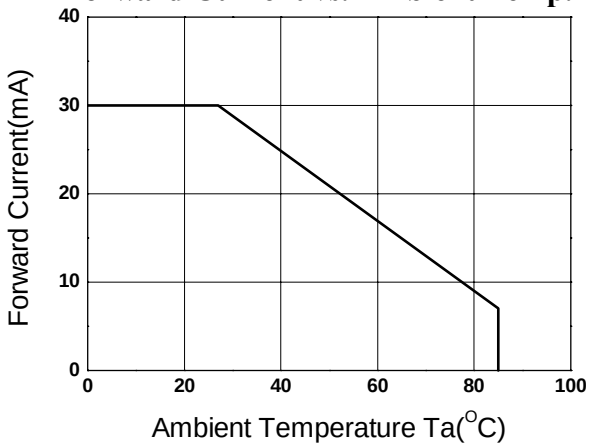
Forward Current vs. Forward Voltage



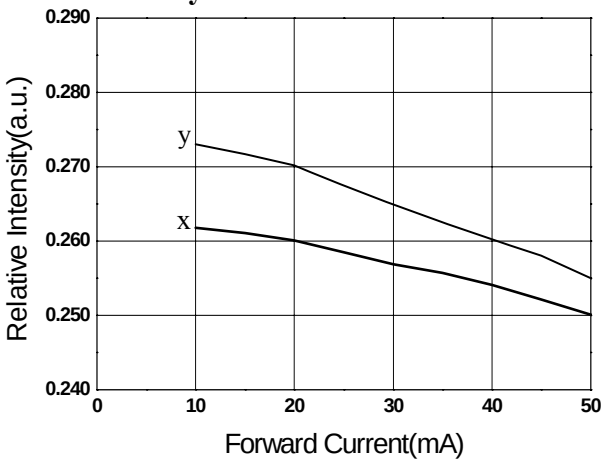
Relative Intensity vs. Forward Current



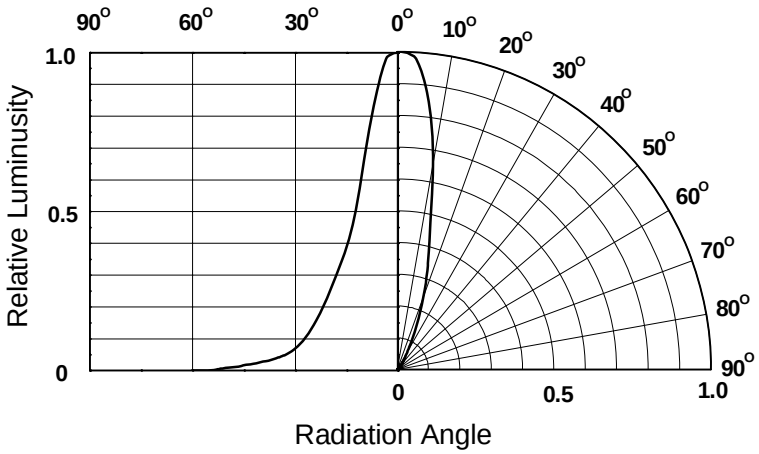
Forward Current vs. Ambient Temp.



Chromaticity Coordinate vs. Forward Current



Relative Intensity vs. Angle Displacement

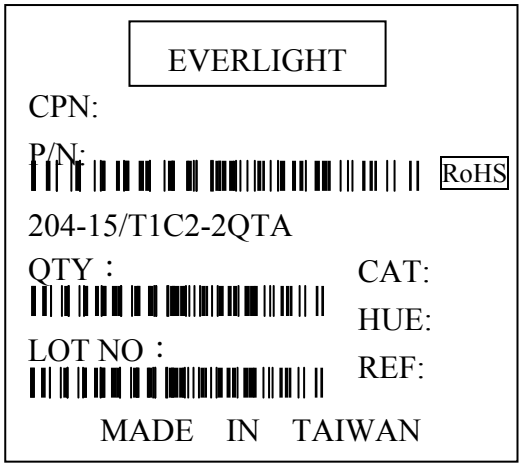


Packing Quantity Specification

1.1000PCS/1Bag，5Bags/1Box

2.10Boxes/1Carton

Label Form Specification



CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks of Luminous Intensity and Forward Voltage

HUE: Color Rank

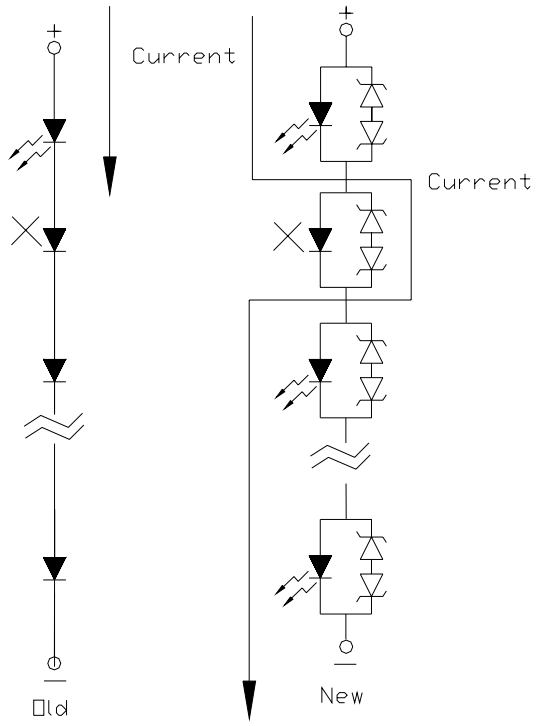
REF: Reference

LOT No: Lot Number

MADE IN TAIWAN: Production Place

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 up



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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