



# Technical Data Sheet

## 333/R2C1-ATWB

### Features

- Popular T-1 3/4package.
- High efficiency.
- General purpose leads.
- Selected minimum intensities
- Available on tape and reel.
- ESD-withstand voltage: up to 4KV
- The product itself will remain within RoHS compliant version.



### Descriptions

- The series is specially designed for applications requiring higher brightness.
- The LED lamps are available with different colors, intensities, epoxy colors, etc.

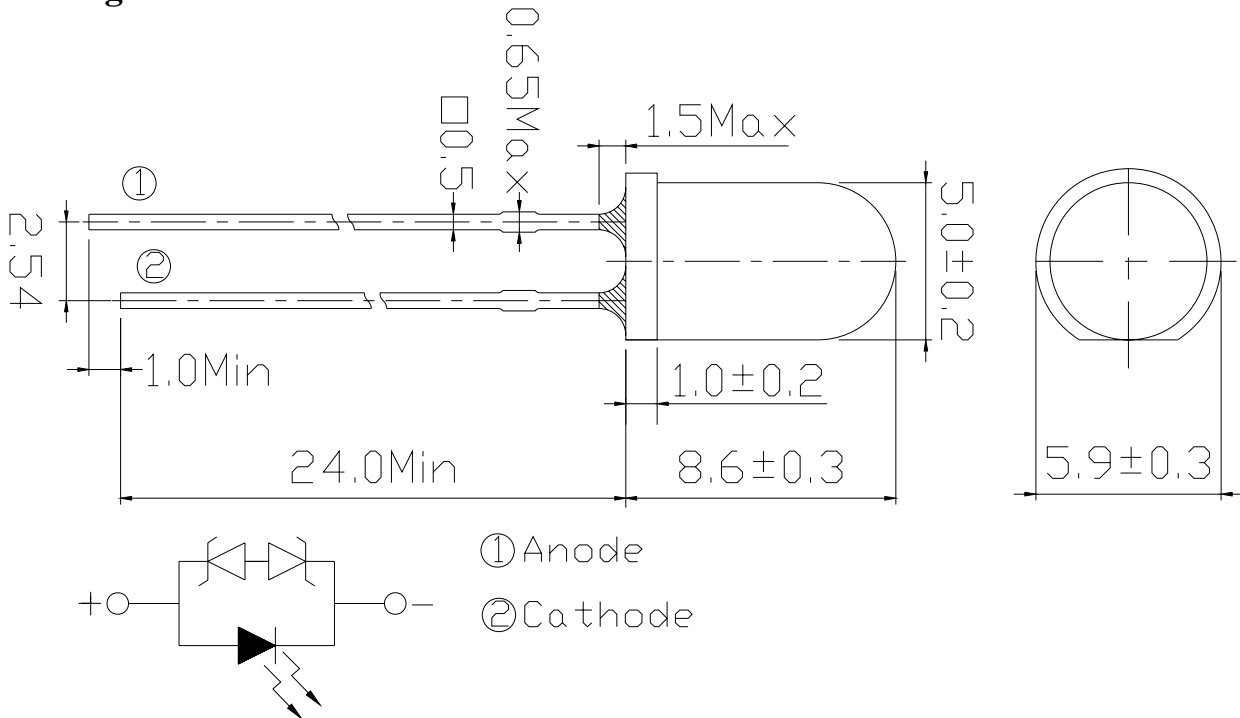
### Applications

- Status indicators.
- Commercial use.
- Advertising Signs.
- Back lighting.

### Device Selection Guide

LED Part No.	Chip		Lens Color
	Material	Emitted Color	
333/R2C1-ATWB	AlGaInP	Hyper Red	Water Clear

### Package Dimensions



### Notes:

- Other dimensions are in millimeters, tolerance is 0.25mm except being specified.
- Protruded resin under flange is 1.5mm Max LED.
- Bare copper alloy is exposed at tie-bar portion after cutting.

### Absolute Maximum Rating ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Absolute Maximum Rating	Unit
Forward Current	$I_F$	50	mA
Pulse Forward Current (Duty 1/10@ 1KHz)	$I_{FP}$	100	mA
Operating Temperature	$T_{opr}$	-40 ~ +85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ +100	$^\circ\text{C}$
Electrostatic Discharge	ESD	4K	V
Soldering Temperature	$T_{sol}$	260 ± 5	$^\circ\text{C}$
Power Dissipation	$P_d$	130	mW
Zener Reverse Current	$I_Z$	100	mA
Reverse Voltage	$V_R$	5	V

Notes: Soldering time  $\leq 5$  seconds.



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### Electro-Optical Characteristics ( $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	$I_V$	7150	--	18000	mcd	$I_F=20\text{mA}$
Viewing Angle	$2\theta_{1/2}$	--	15	--	deg	
Peak Wavelength	$\lambda_p$	--	632	--	nm	
Dominant Wavelength	$\lambda_d$	--	624	--		
Spectrum Half width	$\Delta\lambda$	--	20	--		
Forward Voltage	$V_F$	1.8	--	2.6	V	
Zener Reverse Voltage	$V_Z$	5.2	--	--	V	$I_Z=5\text{mA}$
Reverse Current	$I_R$	--	--	50	$\mu\text{A}$	$V_R=5\text{V}$

### Rank Combination ( $I_F=20\text{mA}$ )

Rank	T	U	V	W
Luminous Intensity	7150~9000	9000~11250	11250~14250	14250~18000

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

Unit:mcd

Rank	1	2	3	4
Forward Voltage	1.8~2.0	2.0~2.2	2.2~2.4	2.4~2.6

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

Unit:V

Rank	1	2	3
Dominant Wavelength	618~620	620~624	624~628

\*Measurement Uncertainty of Dominant Wavelength  $\pm 1.0\text{nm}$

Unit:nm

\*The quantity ratio of the ranks is decided by EVERLIGHT.

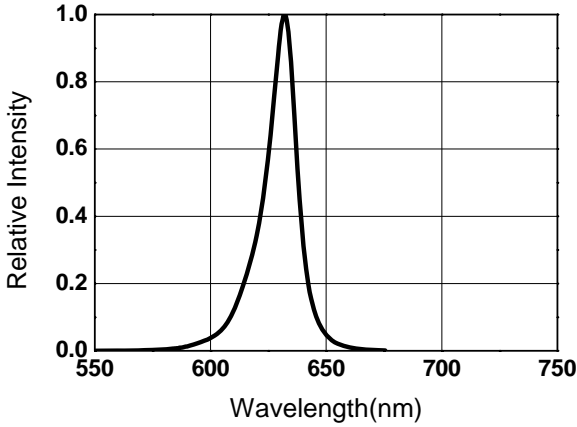


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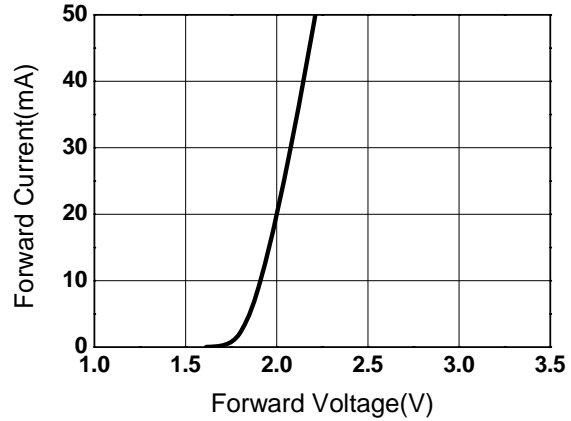
## 333/R2C1-ATWB

### Typical Electro-Optical Characteristics Curves

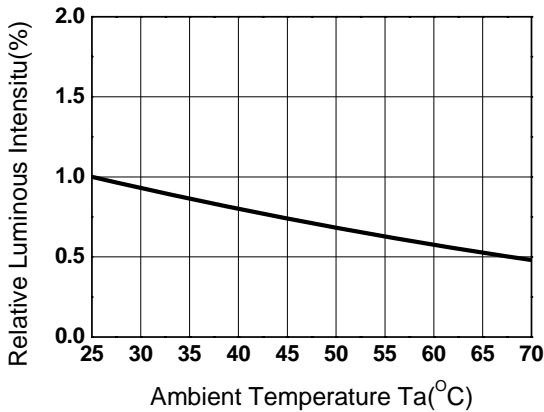
Relative Intensity vs. Wavelength



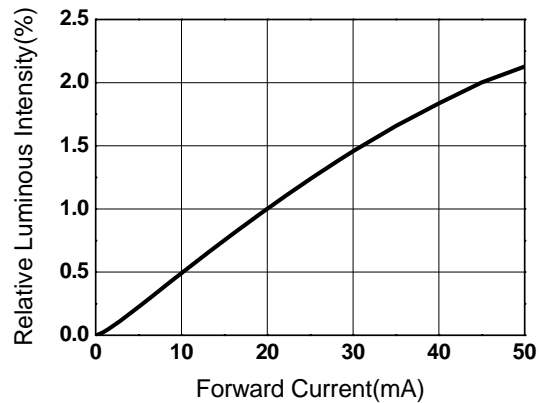
Forward Current vs. Forward Voltage



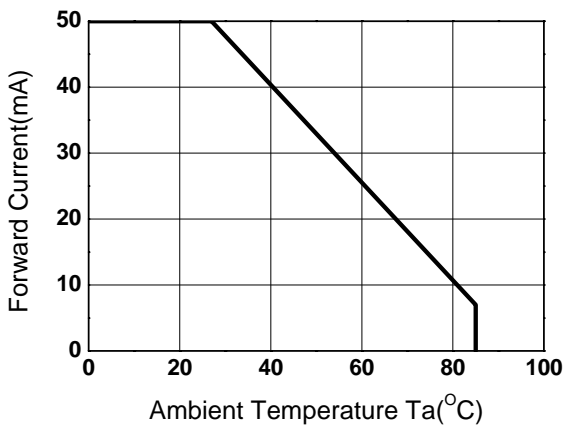
Relative Intensity vs. Ambient Temp



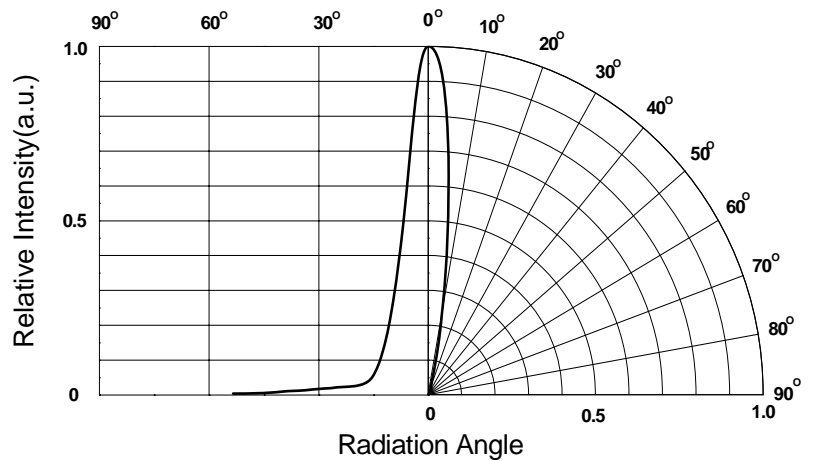
Forward Current vs. Relative Intensity



Forward Current vs. Ambient Temp.



Radiation Characteristics





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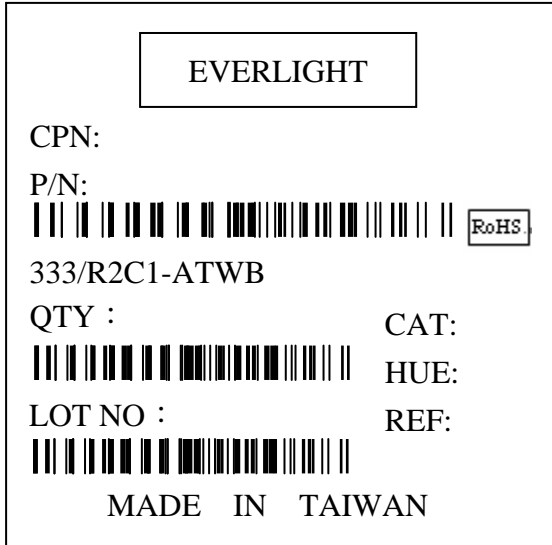
**333/R2C1-ATWB**

## Packing Quantity Specification

1.500PCS/1Bag , 5Bags/1Box

2.10Boxes/1Carton

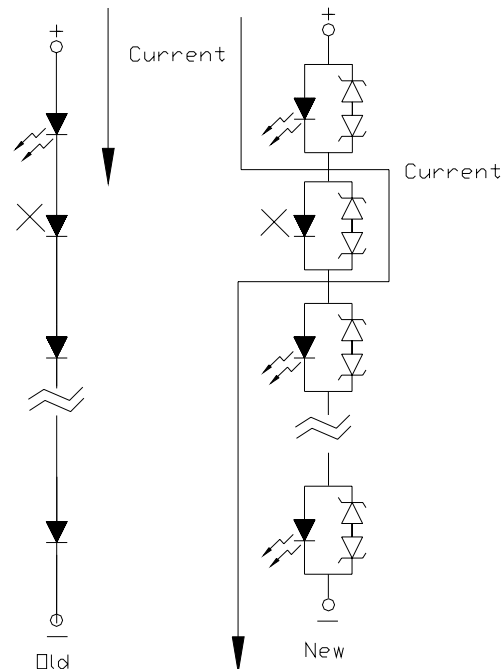
## Label Form Specification



CPN: Customer's Production Number  
 P/N : Production Number  
 QTY: Packing Quantity  
 CAT: Ranks of Luminous Intensity and Forward Voltage  
 HUE: Ranks of Dominant Wavelength  
 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  $V_z$ , 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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#### 6. Soldering Condition

Careful attention should be paid during soldering. When soldering, leave more than 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°C Max. (30W Max.)	Preheat temp.	100°C 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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