



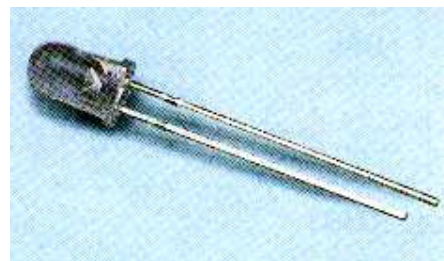
## Technical Data Sheet

### Light Emitting Diode (5 mm Round LED,T-1 3/4)

#### 333/A2C1-ASWB

#### Features

- Popular T-1 3/4 diameter package.
- Choice of various viewing angles.
- Available on tape and reel.
- Reliable and robust.
- 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

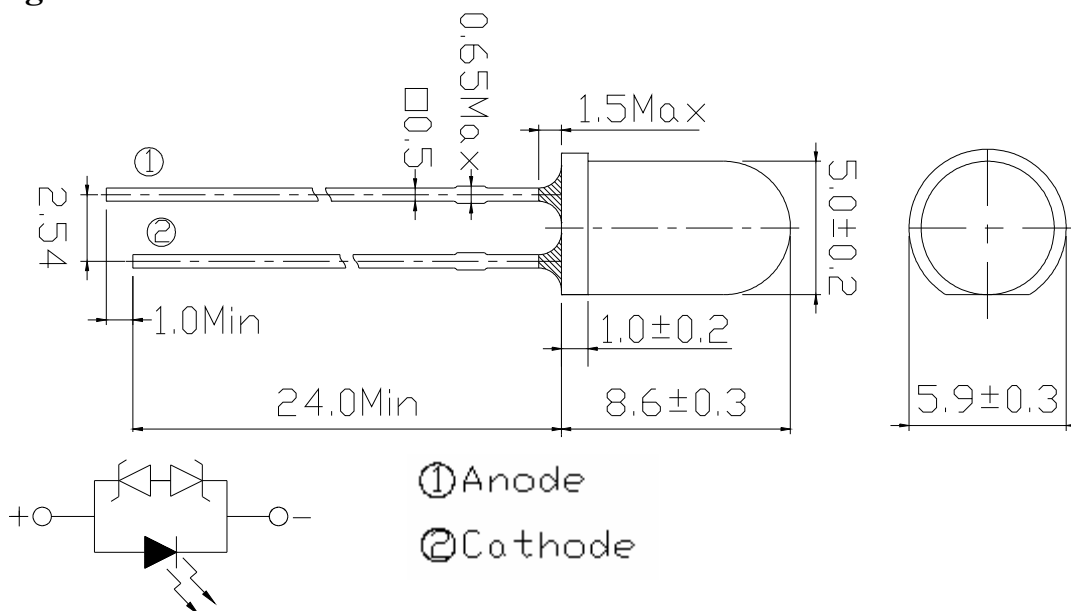
Chip		Lens Color
Material	Emitted Color	
AlGaInP	Reddish Orange	Water Clear

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Package Dimensions



Notes:

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

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Units
Forward Current	I <sub>F</sub>	50	mA
Pulse Forward Current <sup>*1</sup>	I <sub>FP</sub>	100	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Electrostatic Discharge	ESD	4K	V
Soldering Temperature <sup>*2</sup>	T <sub>sol</sub>	260±5	°C
Power Dissipation	P <sub>d</sub>	120	mW
Zener Reverse Current	I <sub>z</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V

Notes: \*1:I<sub>FP</sub> Conditions--Pulse Width ≤ 10msec and Duty ≤ 1/10.

\*2:Soldering time ≤ 5 seconds.



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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	1.8	--	2.6	V
Zener Reverse Voltage	V <sub>Z</sub>	I <sub>Z</sub> =5mA	5.2	--	--	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μA
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	5650	--	18000	mcd
Viewing Angle	2θ 1/2	I <sub>F</sub> =20mA	--	15	--	deg
Peak Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	--	621	--	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> =20mA	--	615	--	nm
Spectrum Radiation Bandwidth	Δλ	I <sub>F</sub> =20mA	--	18	--	nm

Rank Combination (I<sub>F</sub>=20mA)

Rank	S	T	U	V	W
Luminous Intensity	5650~7150	7150~9000	9000~11250	11250~14250	14250~18000

\*Measurement Uncertainty of Luminous Intensity: ±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: ±0.1V

Unit:V

Rank	6	7	8
Dominant Wavelength	610~613.5	613.5~617.0	617.0~620

\*Measurement Uncertainty of Dominant Wavelength ±1.0nm

Unit:nm

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

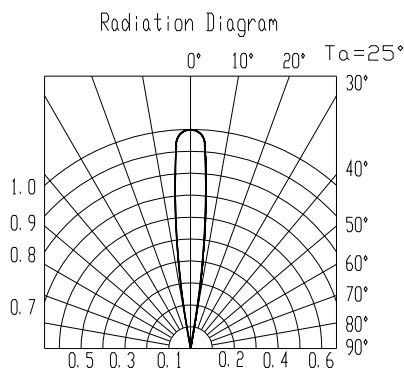
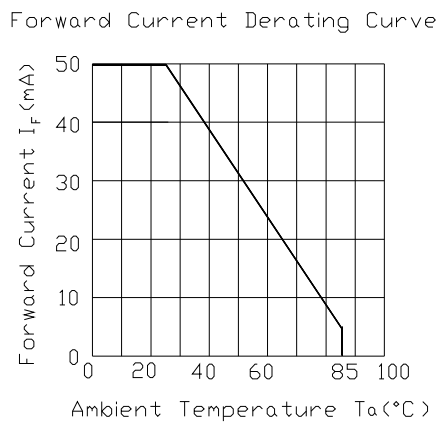
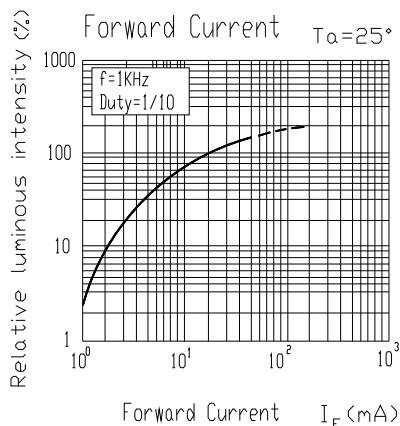
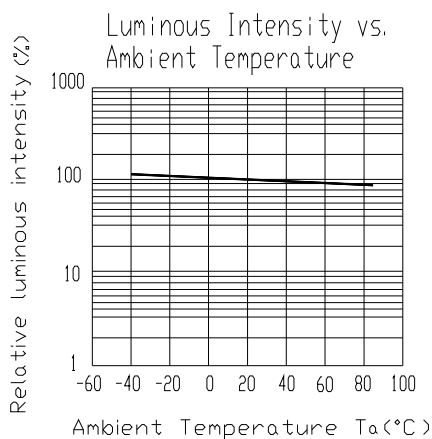
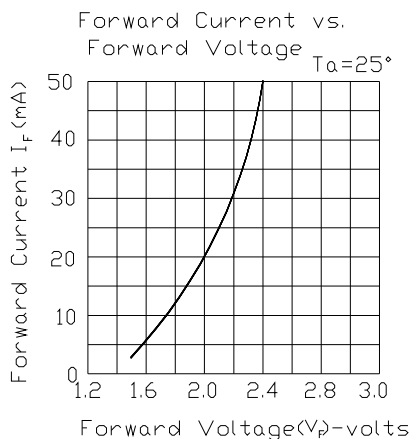
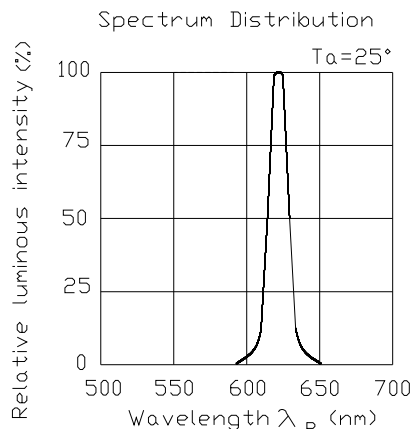


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Typical Electro-Optical Characteristics Curves





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Label Form Specification

<b>EVERLIGHT</b>	
CPN:	
P/N:	
	
333/A2C1-ASWB	
QTY :	CAT:
	HUE:
LOT NO :	REF:
	
MADE IN TAIWAN	

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

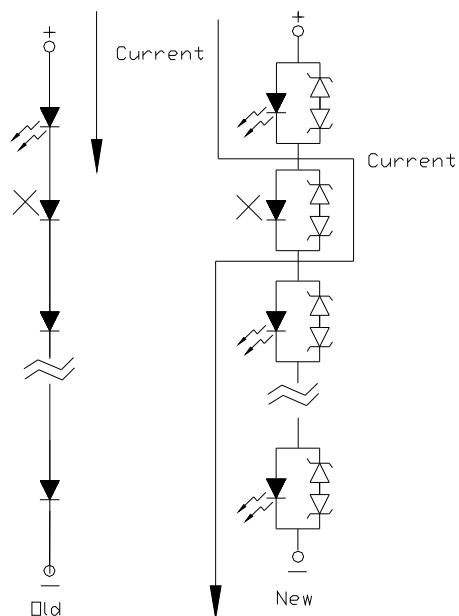
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**Notes**

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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#### 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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