

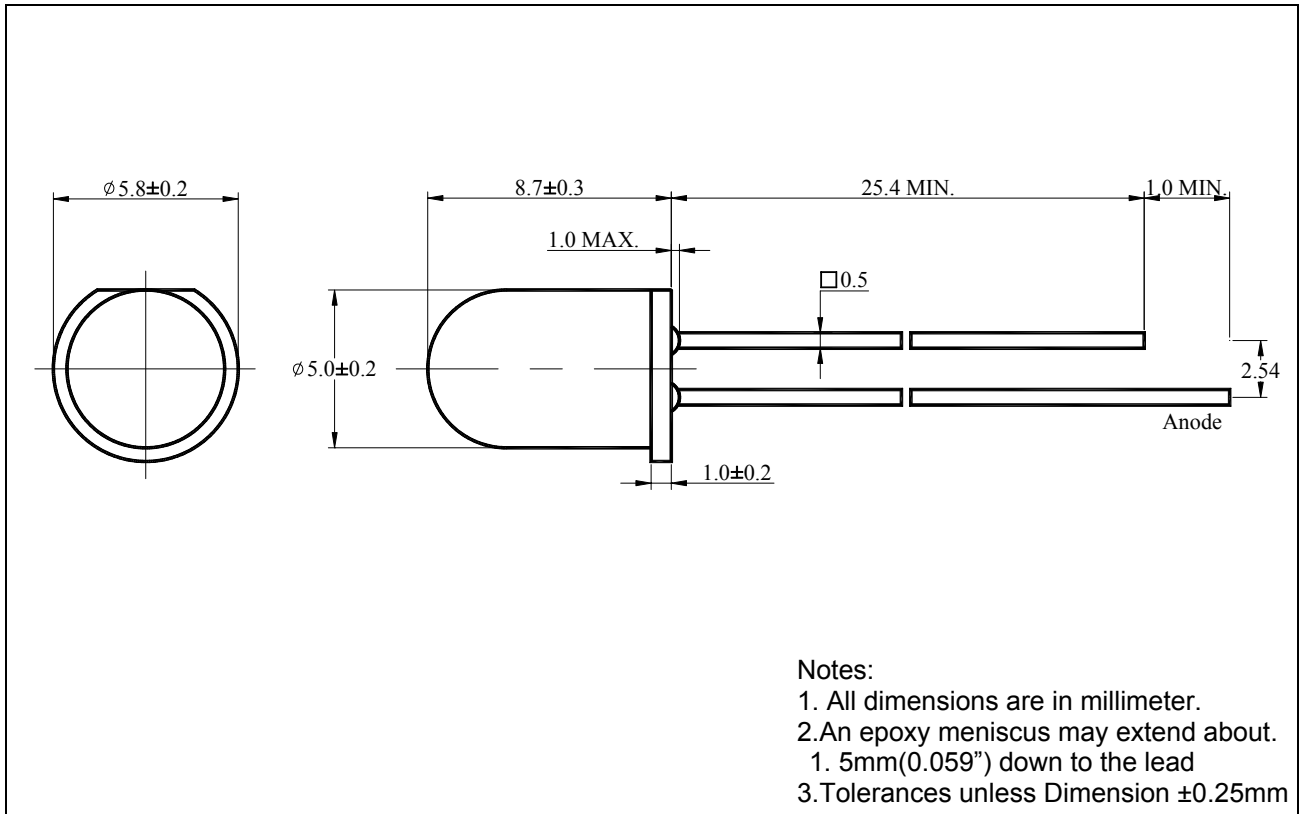
Part No.  
5 mm

**ZD0195**  
Round

Diff No. 004

Type : LED Lamps

### Package Dimension :



#### ■ Features :

- Choice of various viewing angles.
- Available on Tape and Reel.
- Reliable and robust.

#### ■ Descriptions :

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

#### ■ Applications :

- TV set
- Monitor
- Telephone

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PART NO.	Chip		Lens Color
	Material	Emitted Color	
AL-513W5C-004	InGaN	White	Water Clear

■ Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Forward Current	I <sub>F</sub>	30	mA
Operating Temperature	T <sub>opr</sub>	-20 to +80	°C
Storage Temperature	T <sub>stg</sub>	-30 to +100	°C
Soldering Temperature	T <sub>sol</sub>	260 ± 5	°C
Electrostatic Discharge	ESD	1000	V
Power Dissipation	P <sub>D</sub>	120	mW
Peak Forward Current (Duty 1/10@1KHz)	I <sub>F</sub> (Peak)	150	mA
Reverse Voltage	V <sub>R</sub>	5	V

■ Electronic Optical Characteristics :

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>V</sub>	17000	18000	/	mcd	I <sub>F</sub> =20mA
Viewing Angle	2θ <sub>1/2</sub>	/	15	/	deg	I <sub>F</sub> =20mA
Chromatically Coordinates	X	/	0.31	/	/	I <sub>F</sub> =20mA
	Y	/	0.32	/	/	
Forward Voltage	V <sub>F</sub>	/	3.3	3.6	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	/	/	10	μA	V <sub>R</sub> =5V

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■ Reliability test items and conditions :

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260±5°C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5min L : -55°C 30min	50 CYCLES	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10set L : -10°C 5min	50 CYCLES	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	TEMP : 25°C	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 HRS	76 PCS	0/1

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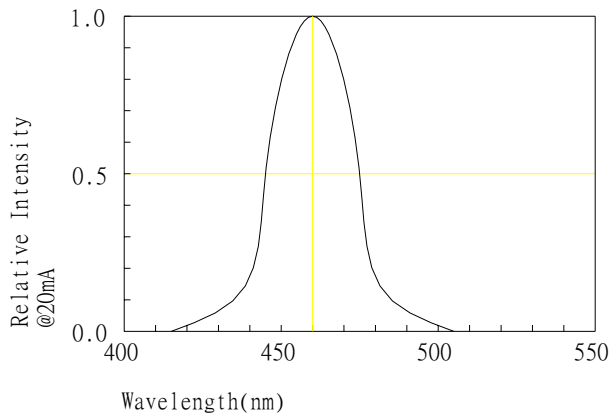
**ZD0195**  
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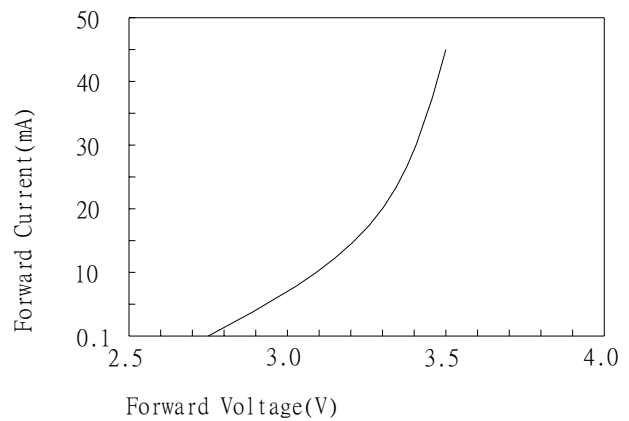
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■ Typical Characteristics (The data typical, and the value is not guaranteed.)

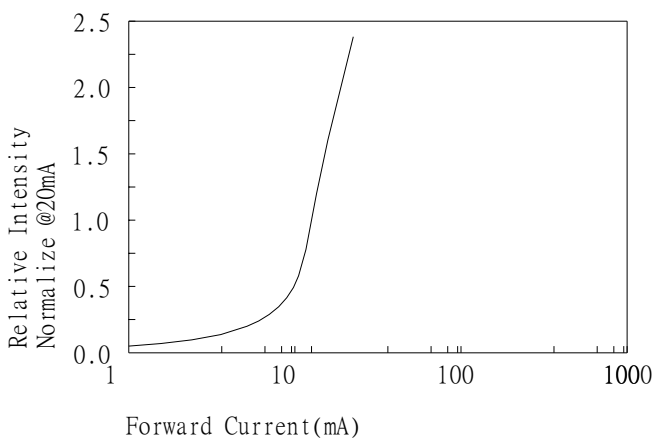
**Fig1. Relative Intensity vs. Wavelength**



**Fig2. Forward Current vs. Forward Voltage**



**Fig3. Relative Intensity vs. Forward Current**



**Fig4. Forward Voltage vs. Temperature**

