333ZXD-6A/R09

Light Emitting Diode

Description

- Size: 5mm (T-1 3/4) round package.
- Emitting color: True pure green.
- Lens color: Green Diffused with internal resistor.
- Lead type: Radial leads.

Main Features

- Instant light less than 100ns turn on time.
- Superior resistance to moisture.
- Low drive current, recommend forward current: IF= 10- 20mA.
- **Pb-Free.**
- Reliable and rugged.
- Cool beam, safe to touch.

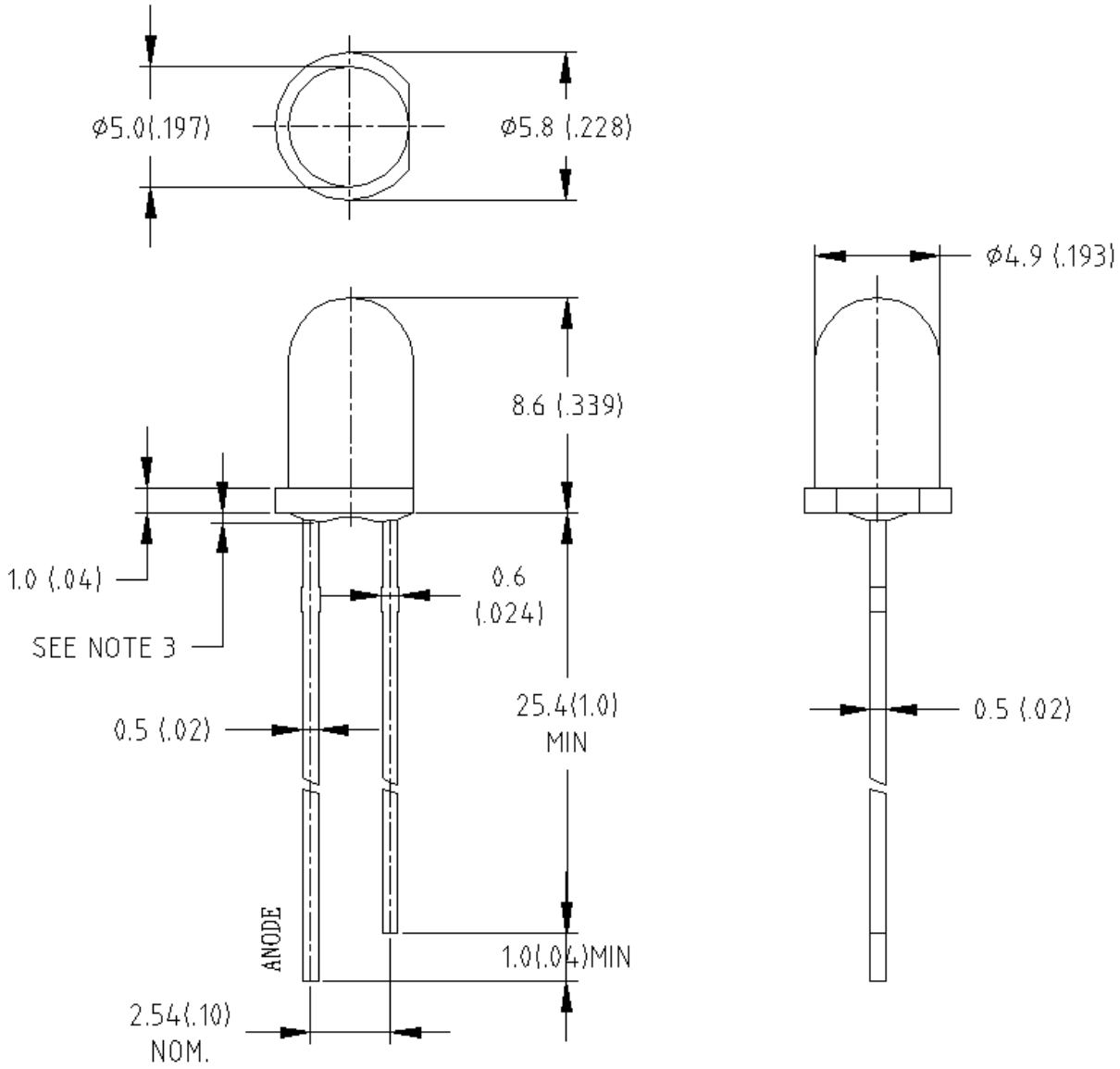
Absolute Maximum Rating TA=25°C				
Parameter	**Symbol**	**Rating**	**Unit**	**Notice**
Power Dissipation	Pd	80	mW	IF = 20mA
DC Forward Current	I_F	20	mA	----
Pulse Forward Current	$I_{F\ (PEAK)}$	100	mA	Duty 1/10 @ 1KHz
Derating Linear From 50°C	--	0.4	mA / °C	----
Reverse Voltage	V_R	5	V	Under 100uA
Operating Temperature Range	T_{OPR}	-30 to +80	°C	----
Storage Temperature Range	T_{STG}	-40 to +100	°C	Humidity should be under 50%
Lead Soldering Temperature	T_{SOL}	260 +/-5	°C	4mm (0.157") from mold body Less then 5 Second

Part Selection Electrical / Optical Characteristics At TA-25°C						
Characteristic	**Symbol**	**Test Condition**	**Min.**	**Typ.**	**Max.**	**Unit.**
Forward Voltage	V_F	I_F =20mA	9	12	18	V
Reverse Current	I_R	V_R =5V	—	---	50	uA
Luminous Intensity (Note 1)	I_V	I_F =20mA	--	1000	2000	mcd
Peak Emission Wavelength	λ_p	I_F =20mA	515	520	525	nm
Spectral Line Half Width	$\Delta\lambda$	I_F =20mA	40	45	50	nm
Dominant Wavelength (Note 2)	λ_d	I_F =20mA	520	525	530	nm

Note 1 : Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

Note 2 : The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Package Dimensions



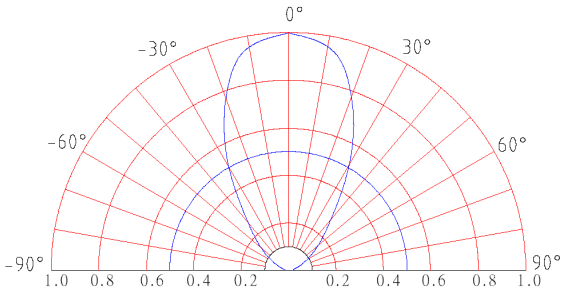
Lens Color	**Diffused**	**Source Color**	**Pure Green Color**
		Viewing Angle	**50 +/- 5 Deg.**

NOTES:

- All dimensions are in millimeters (inches).
- Tolerance is ±0.25 mm (.010”) unless otherwise noted.
- Protruded resin under flange is 1.0mm(.04”) max
- Lead spacing is measured where the leads emerge from the package.
- Specifications are subject to change without notice.

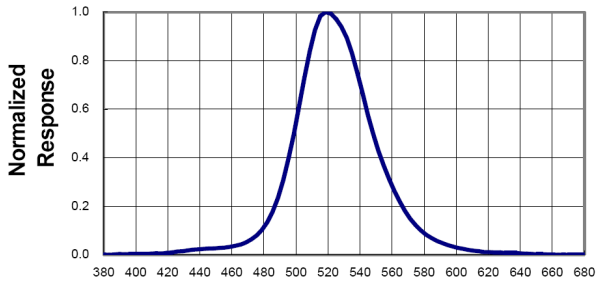
Typical Electrical / Optical Characteristic Curves At 25°C Ambient Temperature

Beam Pattern

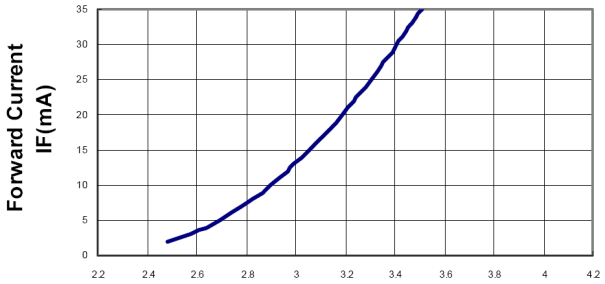


Relative Intensity (LOP @ MAX=1)

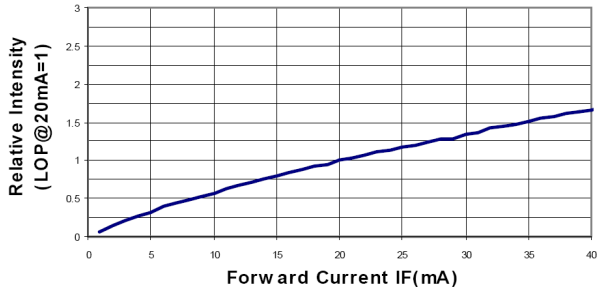
Spectral Radiance (Peak @ 520 nm)



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



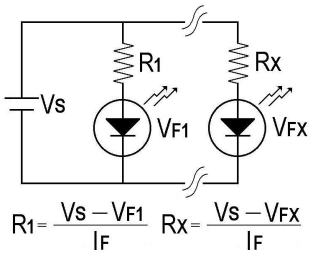
NOTE:

- $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- Clean only in isopropanol, ethanol, Freon TF (or equivalent).
- When using this product, Please observe the absolute maximum rating and the instructions for use outlined from use of the product, which does not comply with the absolute maximum rating and the instructions included in these specification sheet.
- Q.A Outgoing inspection standard:

  Major Defect 0.65 A.Q.L. Minor Defect 1.5 A.Q.L
- **Lead Forming:**

  If forming is required, it must be done before soldering. Form pin leads by securing under 5mm from body and bedding with radio pliers or the equivalent to avoid pressure on resin. When the LED is mounted into a P.C.board, pitch spacing should be aligned to prevent cause any stress to the resin. Any unsuitable stress applied to resin may break bonding wire in LED, which will cause failure.
- Check at a distance of 30cm from the LED to the eye defects.
- **Over-current-proof:**

  Customer must apply resistor for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).



- **Parallel connection:**

  Customer must apply series resistor in **EACH LED** under parallel connection. Otherwise VF tolerance will cause LED array brightness uneven.
- Specifications are subject to change without notice.