



# AX180UIC

Light Emitting Diode

## Description

- Size: 2.1\*2.4mm with 1.8mm lens.
- Emitting color: Ultra red.
- Lens color: Water clear.
- Lead type: Axial lead

## Main Features

- Instant light less than 100ns turn on time.
- Compatible with infrared and vapor phase reflow solder process.
- Compatible with automatic placement equipment.
- Superior resistance to moisture.
- Cool beam, safe to touch.
- Reliable and rugged.
- **Pb-Free.**
- Wide viewing angle.

## Absolute Maximum Rating TA=25°C

Parameter	Symbol	Rating	Unit	Notice
Power Dissipation	Pd	85	mW	----
DC Forward Current	IF	30	mA	----
Pulse Forward Current	IF (PEAK)	100	mA	Duty 1/10 @ 1KHz
Reverse Voltage	VR	5	V	Under 100uA
Operating Temperature Range	T OPR	-20 to +80	°C	----
Storage Temperature Range	T STG	-25 to +85	°C	Humidity should be under 50%
Lead Soldering Temperature	T SOL	260 +/-5	°C	4mm (0.157") from mold body Less then 5 Second

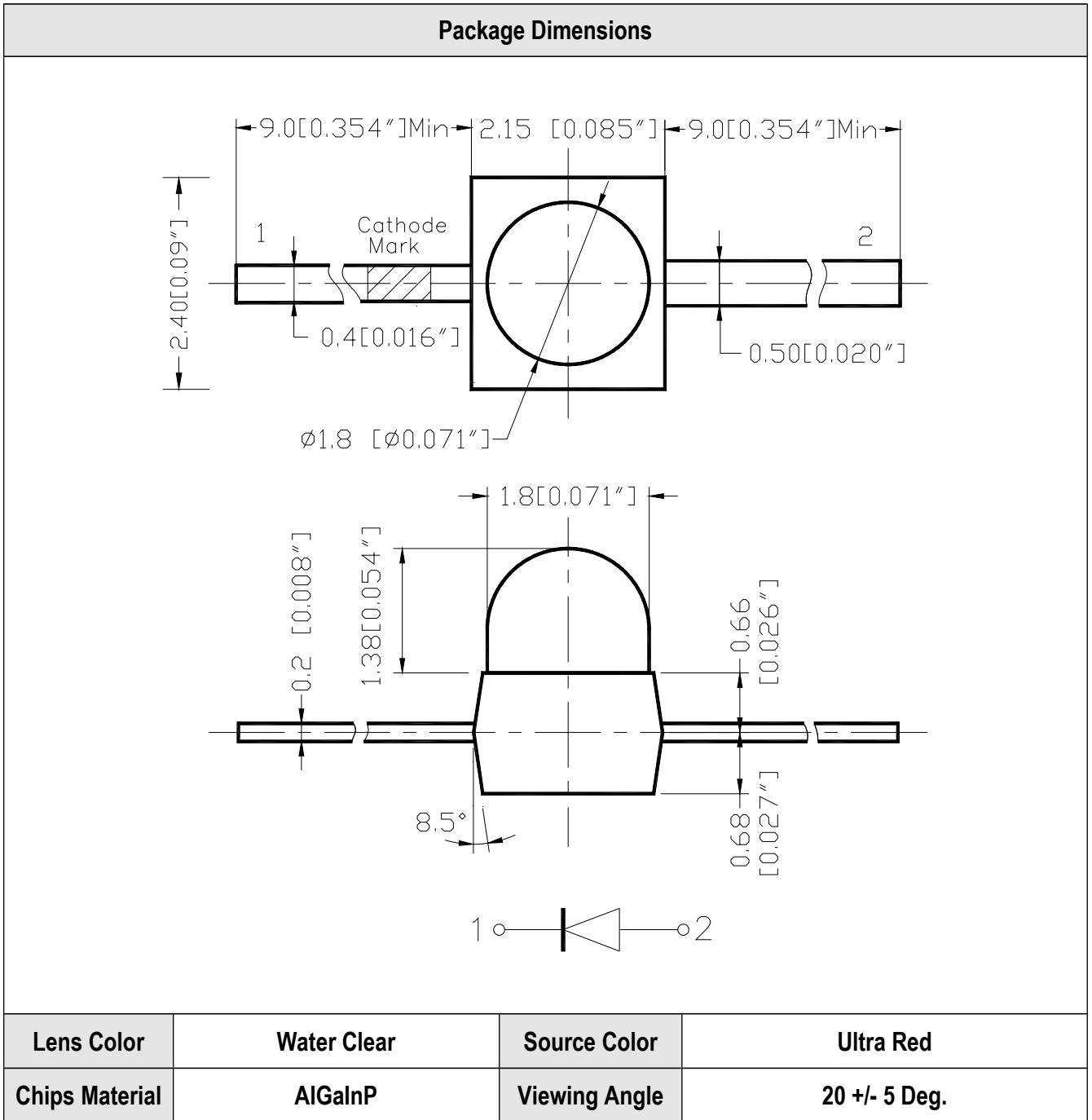
## Part Selection Electrical / Optical Characteristics At TA=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit.
Forward Voltage	VF	IF =20mA	1.80	2.05	2.40	V
Reverse Current	IR	VR =5V	—	-	10	uA
Luminous Intensity ( Note 1 )	Iv	IF =20mA	600	1500	3000	mcd
Peak Emission Wavelength	$\lambda_p$	IF =20mA	635	640	645	nm
Spectral Line Half Width	$\Delta\lambda$	IF =20mA	18	20	23	nm
Dominant Wavelength ( Note 2 )	$\lambda_d$	IF =20mA	625	630	635	nm

### Note:

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
3. Forward voltage measurement allowance is +/-0.1V

4. Luminous intensity measurement allowance +/-10%



**NOTES:**

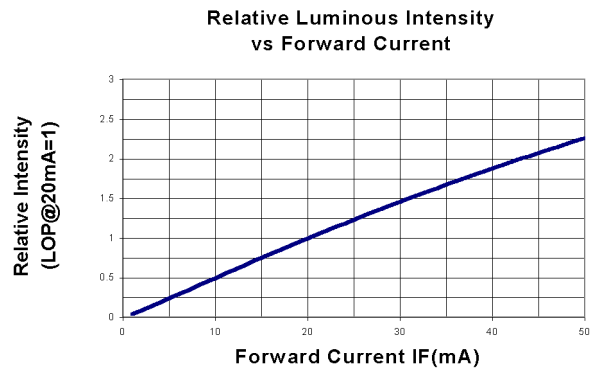
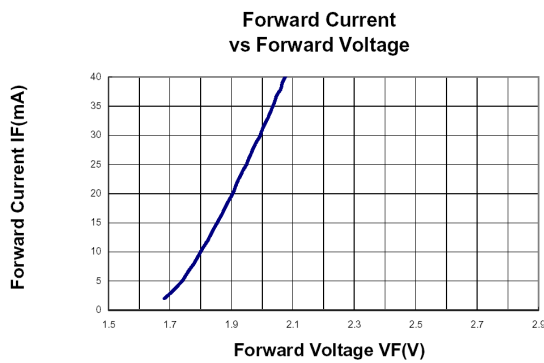
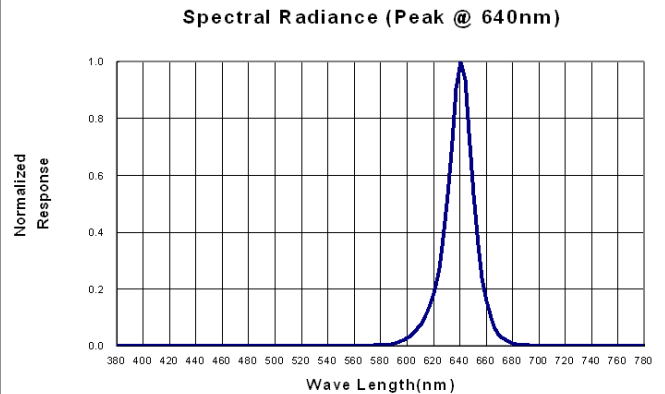
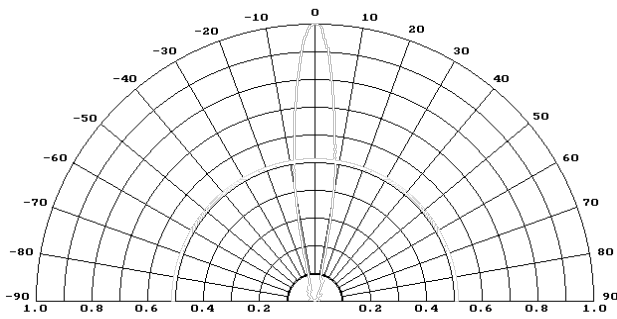
- All dimensions are in millimeters (inches).
- Tolerance is  $\pm 0.25$  mm (.010") unless otherwise noted.
- Protruded resin under flange is 1.0mm(.04") max
- Lead spacing is measured where the leads emerge from the package.
- Specifications are subject to change without notice.



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



### 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.
- 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.
- **Over-current-proof:**  
Customer must apply resistors 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 difference will cause LED array lighting not even.
- Check at a distance of 30cm from the LED to the eye defects.
- Q.A Outgoing inspection standard:  
Major Defect 0.65 A.Q.L. Minor Defect 1.5 A.Q.L
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