

# **QT-Brightek Lamp Series**

## **5mm IR Lamp LED**

**Part No.: QBED8160**

**1: 940nm**

**60: 60 Deg Viewing Angle**

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## Introduction

### Feature:

- Water clear lens
- Package in bulk
- High radiant intensity
- Peak wavelength  $\lambda_p=940\text{nm}$
- Viewing angle: 60 degree typ.

### Description:

This device is spectrally match with phototransistor, photodiode, and infrared receiver module

### Application:

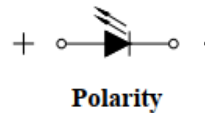
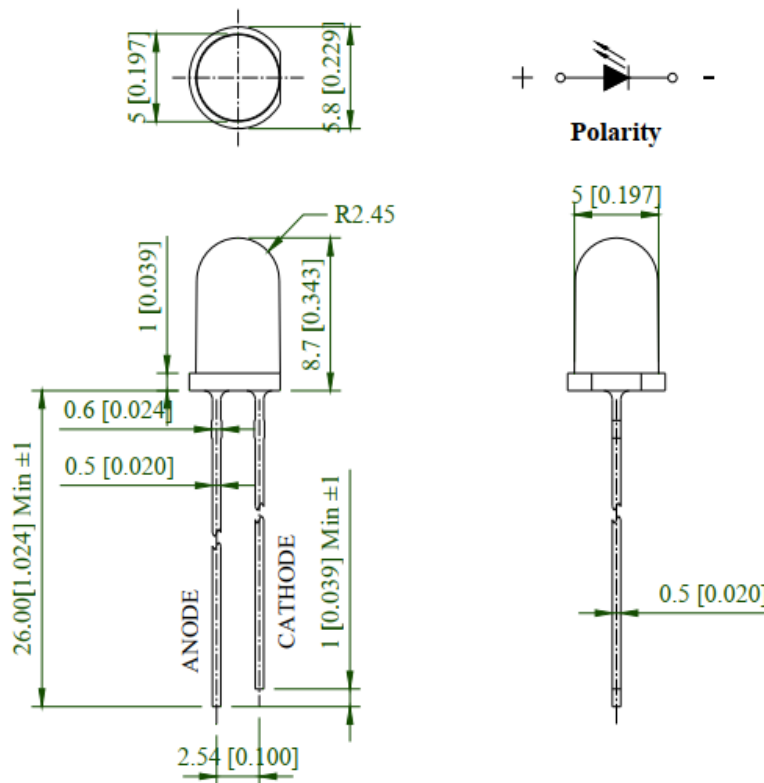
- Free air transmission system
- Optoelectronic switch
- Infrared applied system
- Smoke Detector

### Certification & Compliance:

- ISO9001
- RoHS Compliant



### Dimension:



Units: mm / tolerance = +/-0.25mm

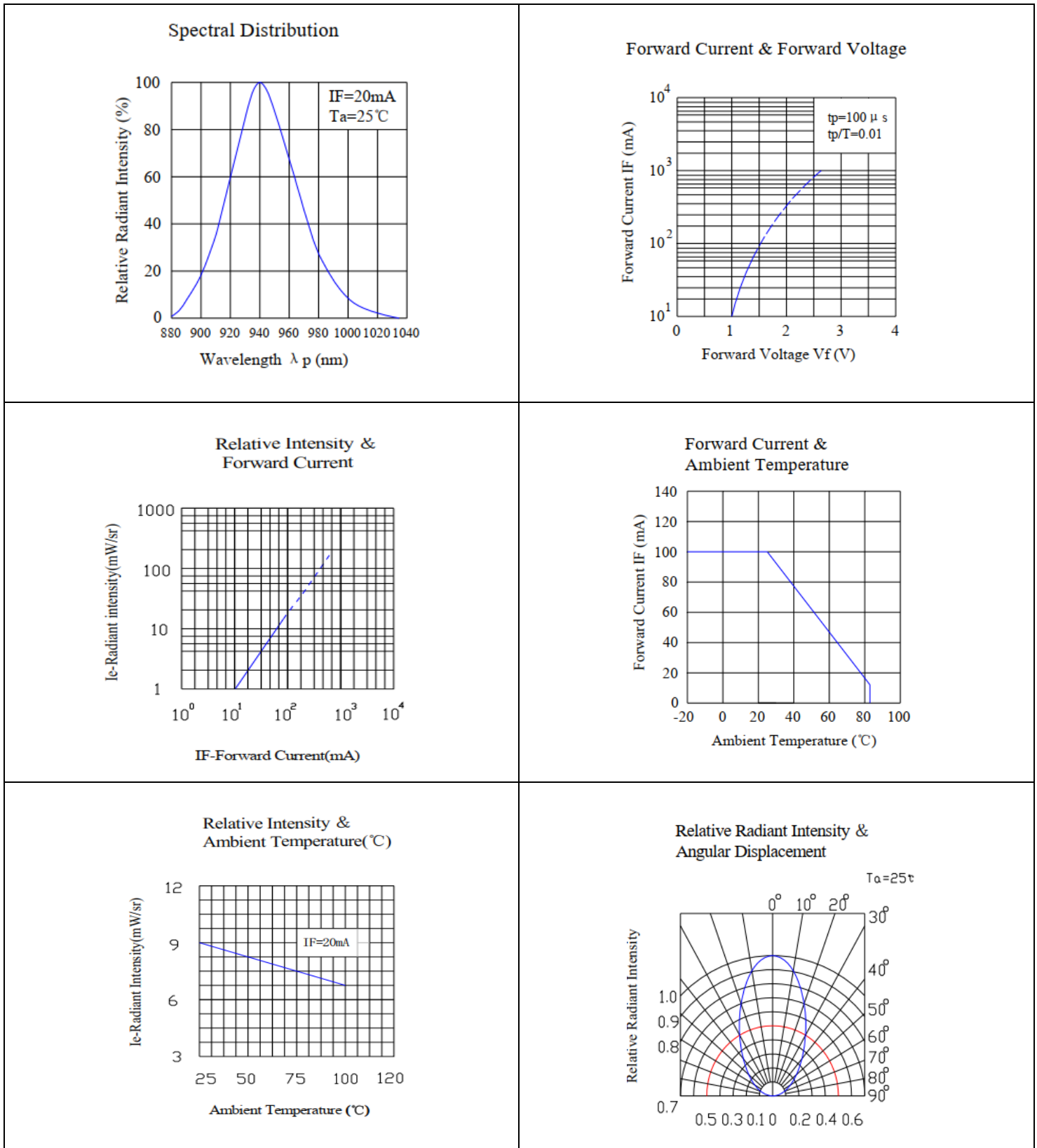
### Electrical / Optical Characteristic (Ta=25 °C)

Parameter	Symbol	Test Condition	Output			Units
			Min.	Typ.	Max.	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	-	1.2	1.50	V
		I <sub>F</sub> =50mA	-	1.35	1.50	
		I <sub>F</sub> =100mA		1.40	1.60	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	10	μA
Radiant Intensity	I <sub>E</sub>	I <sub>F</sub> =20mA	-	9	-	mW/sr
		I <sub>F</sub> =50mA	10	18	-	
		I <sub>F</sub> =100mA	20	35	-	
Peak Radiation Wavelength	λ <sub>P</sub>	I <sub>F</sub> =20mA	-	940	-	nm
Half Spectrum Width	Δλ	I <sub>F</sub> =20mA	-	50	-	nm
Viewing Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =20mA	-	60	-	deg
Switch Time	t <sub>r</sub> /t <sub>f</sub>	I <sub>FP</sub> =100mA ,f=1KHz, tp/T=1%	-	1/1	-	μs

### Absolute Maximum Rating

Parameter	Symbol	Rating	Units
Continuous Forward Current	I <sub>F</sub>	100	mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	I <sub>FP</sub>	900	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation at (or below) 25 °C Free Air Temperature	P <sub>d</sub>	100	mW
Operating Temperature	T <sub>opr</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C

## Characteristic Curves



## Packing

Bulk: 500pcs per bag

## Labeling



Part No: \_\_\_\_\_  
Customer P/N: \_\_\_\_\_  
Item: \_\_\_\_\_  
Q'ty: \_\_\_\_\_  
Vf: \_\_\_\_\_  
Iv: \_\_\_\_\_  
WI: \_\_\_\_\_  
Date: \_\_\_\_\_

**Made in China**

## Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per bag
QBED8160	QBED8160	I <sub>e</sub> =18mW mW/sr. @ I <sub>F</sub> =50mA, λ <sub>P</sub> =940nm typ.	500pcs

**Revision History**

Description:	Revision #	Revision Date
New Release of QBED8160	V1.0	03/27/2014
Fix typo at ordering information	V1.1	06/30/2015
Update spec description and logo	V2.0	03/30/2018

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.