

QT-Brightek Lamp Series

5mm IR Lamp LED

Part No.: QBED8160

Product: QBED8160	Date: June 30, 2015	Page 1 of 7
	Version# 1.1	

Table of Contents:

Introduction3

Electrical / Optical Characteristic (Ta=25 °C)4

Absolute Maximum Rating4

Characteristic Curves.....5

Packing6

Labeling6

Ordering Information6

Revision History7

Disclaimer7

Introduction

Feature:

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

Description:

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

Application:

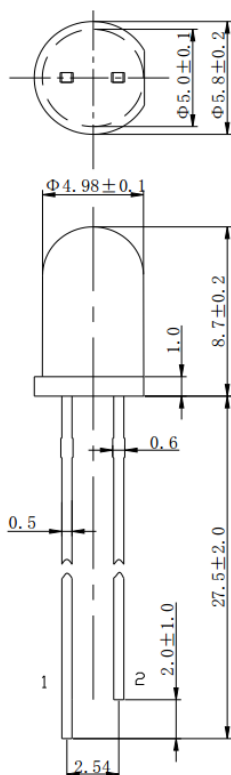
- Free air transmission system
- Optoelectronic switch
- Infrared applied system
- Smoke Detector

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant



Dimension:



- 1、Anode
2、Cathode

Units: mm / tolerance = $\pm 0.2\text{mm}$

Electrical / Optical Characteristic (Ta=25 °C)

Parameter	Symbol	Test Condition	Output			Units
			Min.	Typ.	Max.	
Forward Voltage	V_F	$I_F=50\text{mA}$	-	1.35	1.50	V
Pulse Forward Voltage	V_{FP}	$I_{FP}=400\text{mA}$, $t_p=20\text{ms}$	-	-	2.40	
Reverse Current	I_R	$V_R=5\text{V}$	-	-	10	μA
Radiant Intensity	I_E	$I_F=50\text{mA}$	10	18	-	mW/sr
		$I_F=100\text{mA}$, $t=20\text{ms}$	20	35	-	
Peak Radiation Wavelength	λ_p	$I_F=50\text{mA}$	-	940	-	nm
Half Spectrum Width	$\Delta\lambda$	$I_F=50\text{mA}$	-	50	-	nm
Viewing Angle	$2\theta_{1/2}$	$I_F=50\text{mA}$	-	60	-	deg
Switch Time	t_r/t_f	$I_{FP}=100\text{mA}$, $f=1\text{KHz}$, $t_p/T=1\%$	-	1/1	-	μs

Absolute Maximum Rating

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	100	mA
Peak Forward Current	I_{FP}	800	mA
Reverse Voltage	V_R	5	V
Power Dissipation at (or below) 25 °C Free Air Temperature	P_d	120	mW
Operating Temperature	T_{opr}	-25 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C

Characteristic Curves

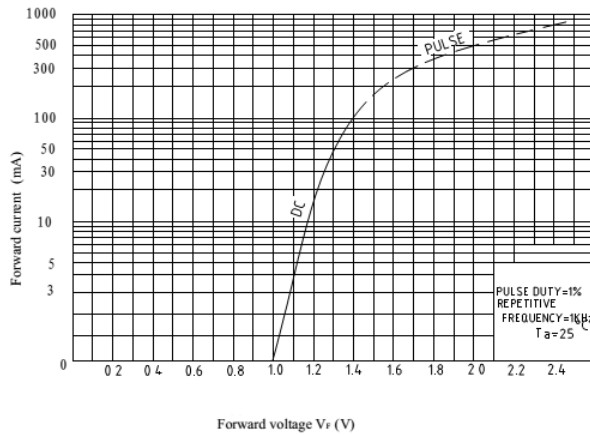


Fig.1 Forward Current vs. Forward Voltage

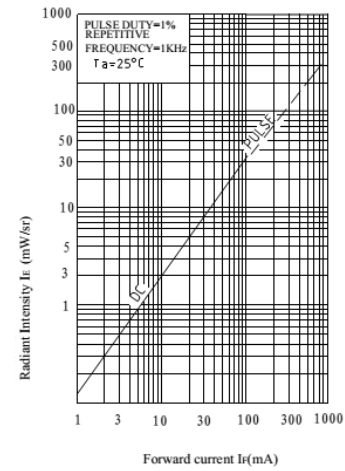


Fig.2 Radiant Intensity vs. Forward Current

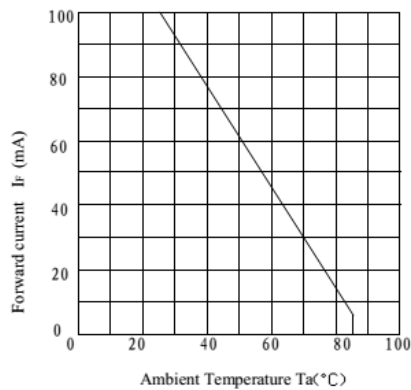


Fig.3 Forward Current vs. Ambient Temperature

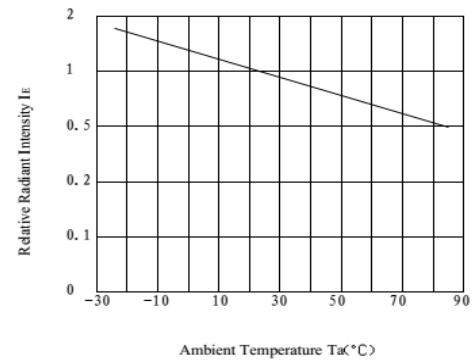


Fig.4 Relative Radiant Intensity vs. Ambient Temperature

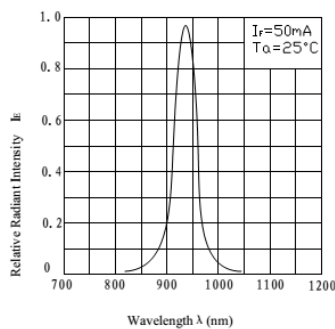


Fig.5 Relative Radiant Intensity vs. Wavelength

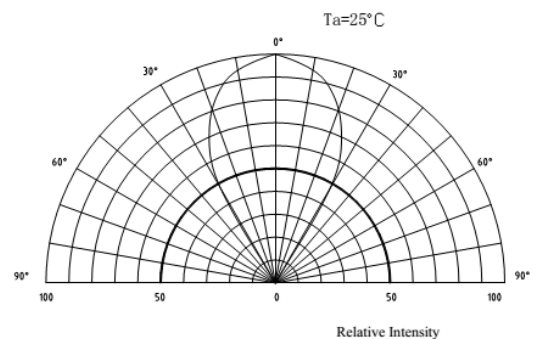


Fig.6 Relative Radiant Intensity vs. Angular Displacement

Packing

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 _e =35mW mW/sr. @ I _F =100mA, t=20ms / λ _P =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

Disclaimer

QT-BRIGHTTEK reserves the right to make changes without further notice to any products herein to improve reliability, function or design. QT-BRIGHTTEK does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

Life Support Policy

QT-BRIGHTTEK's products are not authorized for use as critical components in life support devices or systems without the express written approval of QT-BRIGHTTEK. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.