

# QT-Brightek Lamp Series

## 3mm Infrared Lamp

Part No.: QBEC5120

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	Version# 1.0	

## Introduction

**Feature:**

- Water Clear lens
- Packed in bulk
- 3mm round type thru hole lamp
- AlGaAs/GaAs
- 20 °viewing angle

**Description:**

These 3mm round type thru hole lamps with 5.8 mm lens height are suitable for infrared applied application

**Application:**

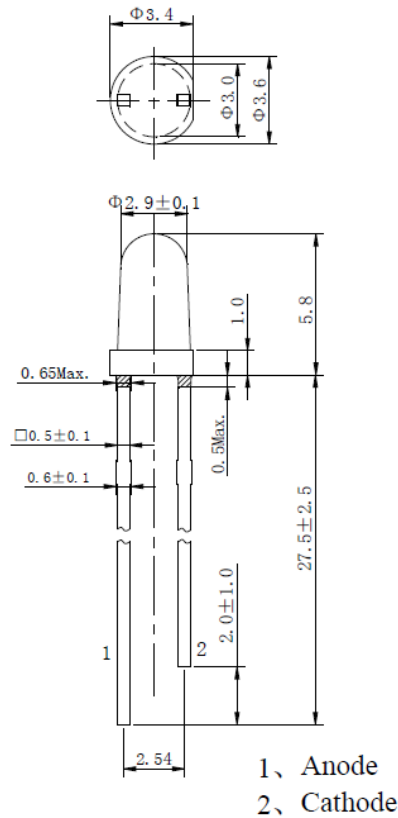
- Infrared applied system
- Optoelectronic switch
- Smoke Detector

**Certification & Compliance:**

- TS16949
- ISO9001
- RoHS Compliant



**Dimension:**



Units: mm / tolerance = +/-0.2mm

**Electrical / Optical Characteristic (T=25 °C)**

Parameter	Symbol	Output			Units	Test Conditions
		Min	Typ	Max		
Radiant Intensity	IE	30	40	70	mW/sr	I <sub>F</sub> =50mA
Peak Wavelength	λ <sub>P</sub>	920	940	960	nm	I <sub>F</sub> =50mA
Forward Voltage	V <sub>F</sub>	-	1.4	1.8	V	I <sub>F</sub> =50mA
		-	-	3	V	I <sub>F</sub> =0.6A, T <sub>P</sub> =10us, T=1ms
Reverse Current	I <sub>R</sub>	-	-	10	μA	V <sub>R</sub> =5V
Viewing Angle	2 Ø1/2	-	20	-	deg	I <sub>F</sub> =50mA

**Absolute Maximum Rating**

Material	P <sub>d</sub> (mW)	I <sub>F</sub> (mA)	I <sub>FP</sub> * (A)	V <sub>R</sub> (V)	T <sub>OP</sub> (°C)	T <sub>ST</sub> (°C)
AlGaAs/GaAs	150	100	1	5	-40 to + 80	-40 to +85

\*Duty 1% @ 1kHz

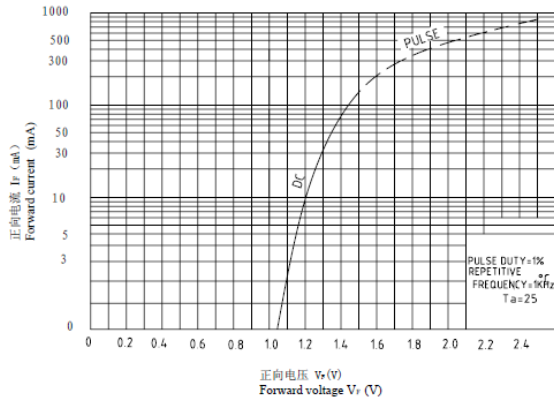
\*\* Wave Soldering for no more than 5 sec @ 260 °C

**Radiant Intensity IE @ IF=50mA**

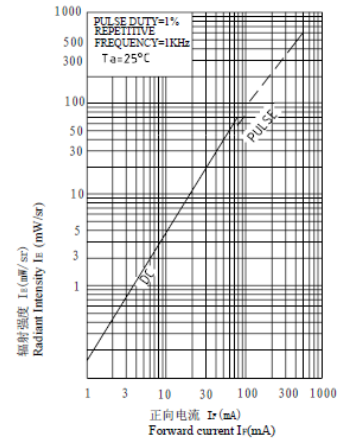
Bin	Min.	Max.	Unit
1	30	35	mW/sr
2	35	50	
3	50	70	

**Characteristic Curves**

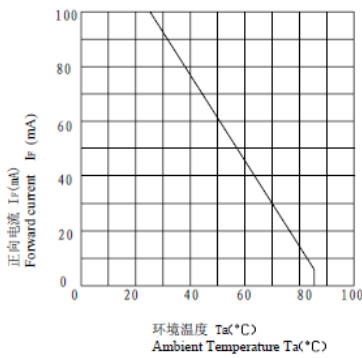
AlGaAs/ GaAs



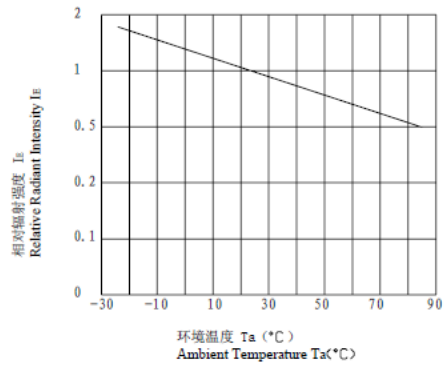
**Fig.1 Forward Current vs. Forward Voltage**



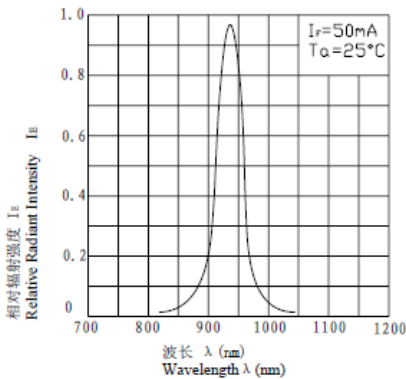
**Fig.2 Radiant Intensity vs. Forward Current**



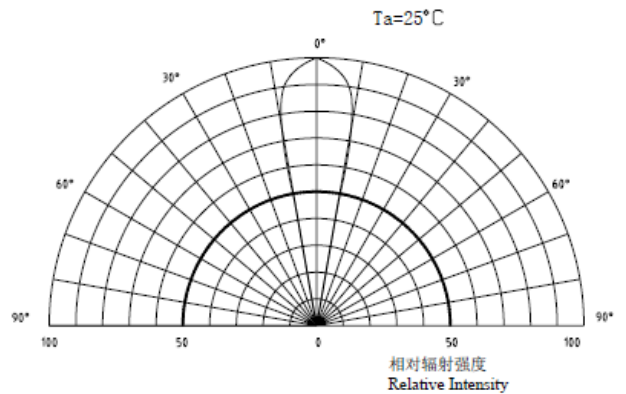
**Fig.3 Forward Current vs. Ambient Temperature**



**Fig.4 Relative Radiant Intensity vs. Ambient Temperature**



**Fig.5 Relative Radiant Intensity vs. Wavelength**



**Fig.6 Relative Radiant Intensity vs. Angular Displacement**

**Ordering Information**

Part #	Orderable Part #	Spec Range	Quantity per bag
QBEC5120	QBEC5120	IE =40 Typ. mW/sr $\lambda_p=940$ Typ. nm	500

**Revision History**

Description:	Revision #	Revision Date
New Release of QBEC5120	V1.0	05/01/2015

**Disclaimer**

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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.