QT-Brightek Lamp Series

5mm IR Lamp LED

Part No.: QBED8120

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Introduction

Feature:

- Water clear lens
- Package in bulk
- High radiant intensity
- $_P$=940nm
- 20 degree viewing angle

Description:

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

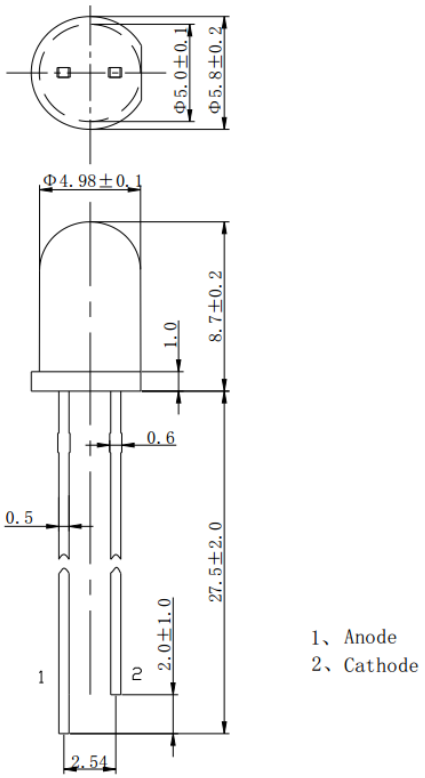
Application:

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

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

Dimension:



Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

Parameter	Symbol	Test Condition	Output			Units
			Min.	Typ.	Max.	
Forward Voltage	V_F	I_F=50mA	-	1.3	1.50	V
Pulse Forward Voltage	V_{FP}	I_{FP}=600mA, t_p=10us	-	-	3	
Reverse Current	I_R	V_R=5V	-	-	10	μA
Radiant Intensity	I_E	I_F=50mA	30	50	-	mW/sr
		I_F=100mA, t=20ms	60	80	-	
Peak Radiation Wavelength	λ_P	I_F=50mA	-	940	-	nm
Half Spectrum Width	$\Delta\lambda$	I_F=50mA	-	50	-	nm
Viewing Angle	$2\Theta_{1/2}$	I_F=50mA	-	20	-	deg
Switch Time	t_r/t_f	I_{FP}=100mA ,f=1KHz, tp/T=1%	-	1/1	-	μs

Absolute Maximum Rating

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	100	mA
Peak Forward Current*	I_{FP}	900	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

*Duty: 1/100 @ 1kHz

Characteristic Curves

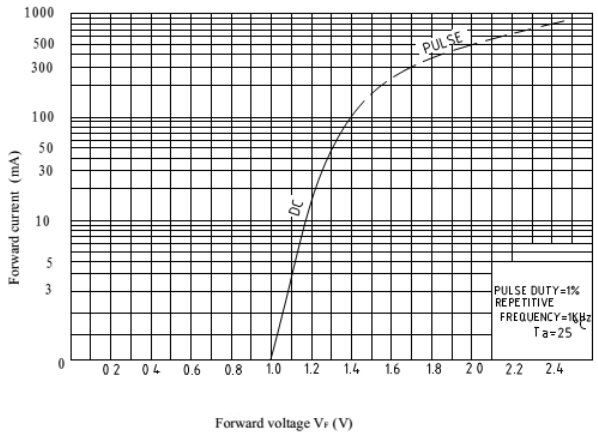


Fig.1 Forward Current vs. Forward Voltage

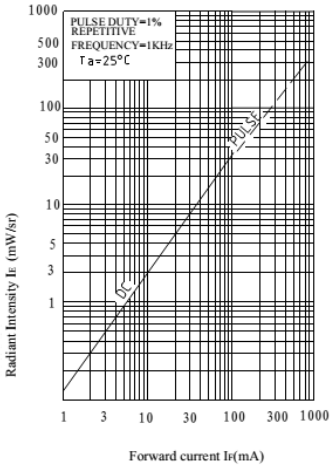


Fig.2 Radiant Intensity vs. Forward Current

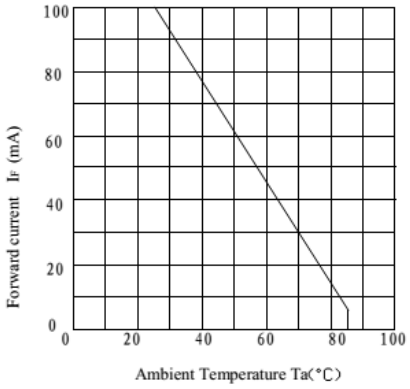


Fig.3 Forward Current vs. Ambient Temperature

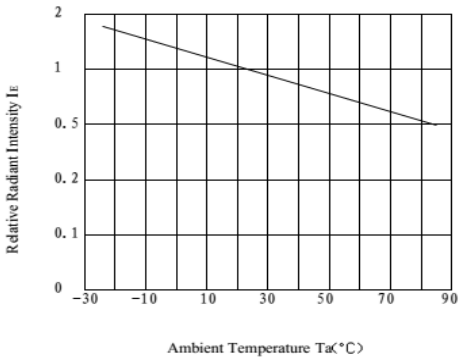


Fig.4 Relative Radiant Intensity vs. Ambient Temperature

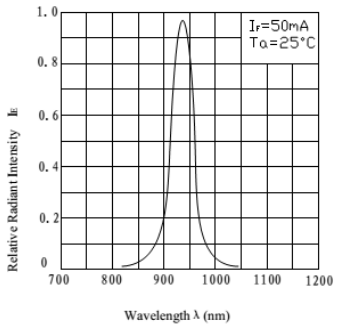


Fig.5 Relative Radiant Intensity vs. Wavelength

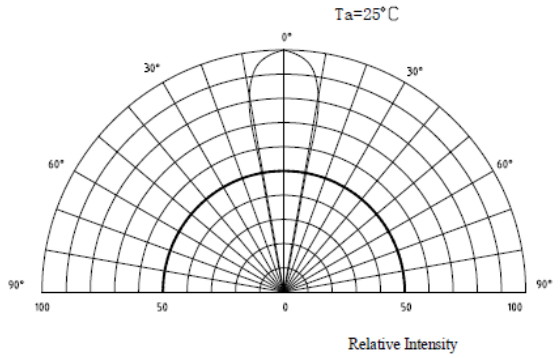
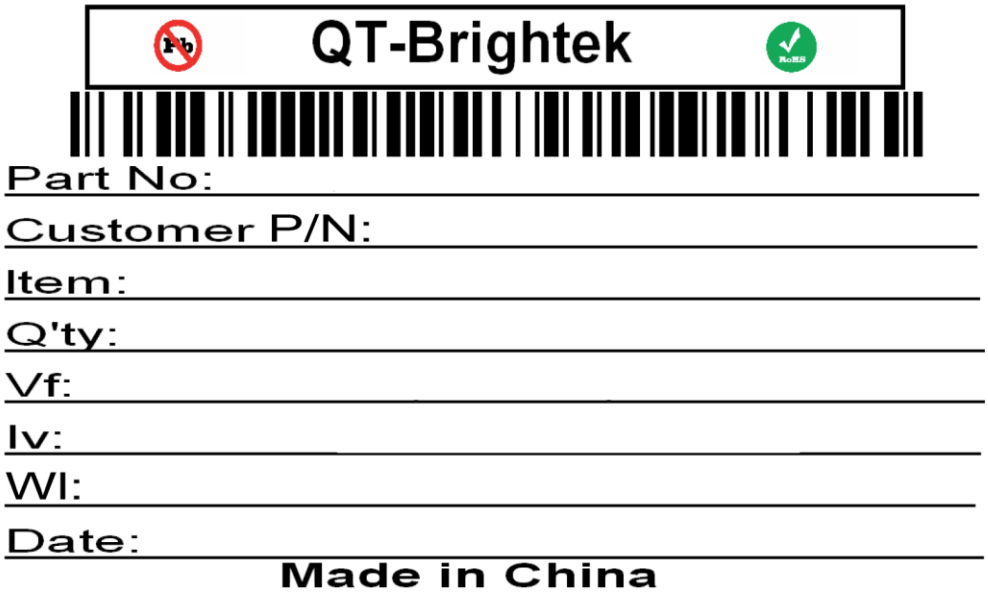


Fig.6 Relative Radiant Intensity vs. Angular Displacement

Packing

500pcs per bag

Labeling



Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per bag
QBED8120	QBED8120	Ie=80mW mW/sr. typ. @ I_F=100mA, t=20ms / λ_P=940nm typ.	500pcs

Revision History

Description:	Revision #	Revision Date
New Release of QBED8120	V1.0	06/03/2011
Update new format/ Amend the optical/ Electrical Characteristic	V1.1	03/27/2014
Fix error in packing spec / Update I_{FP} Max	V1.2	05/05/2015

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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.