

QT-Brightek Lamp Series
3mm Photo transistor Lamp
Part No.: QSC5T50B

Product: QSC5T50B	Date: May 08, 2014	Page 1 of 7
	Version# 1.0	

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Introduction

Feature:

- Black lens
- Packed in bulk
- 3mm round type thru hole lamp
- Daylight filter
- 50° receiving angle

Description:

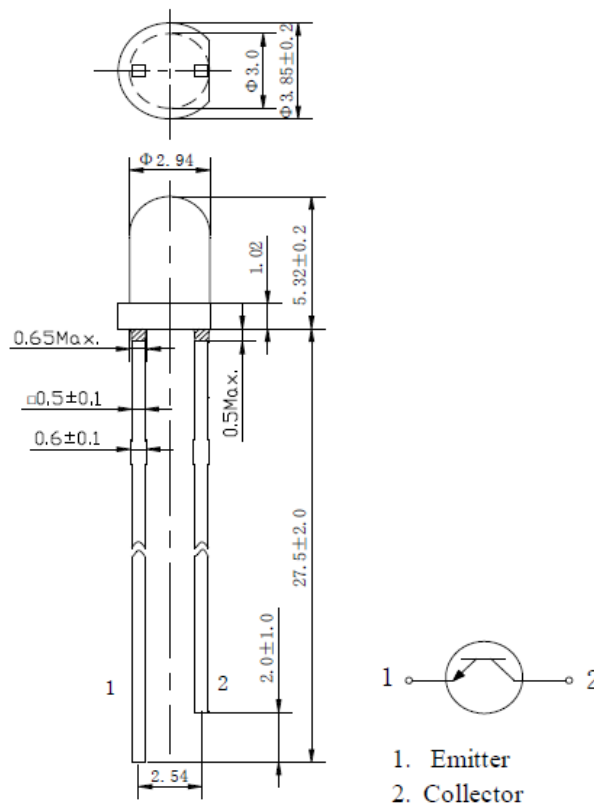
These 3mm round type lamps with 5.32 mm lens height are suitable for infrared applied application

Application:

- photo copy machines
- Camera
- Printer

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

**Dimension:**

Units: mm / tolerance = +/-0.2mm

Electrical / Optical Characteristic (Ta=25 °C)

Parameter	Symbol	Output			Units	Test Conditions
		Min	Typ	Max		
Spectra Bandwidth	$\lambda_{0.5}$	700	-	1100	nm	-
Peak Sensitivity wavelength	λ_P	-	940	-	nm	-
Collector-Emitter Breakdown Voltage	BV_{CEO}	30	-	-	V	$I_C=0.5mA$ $E=0mW/cm^2$
Emitter-Collector Breakdown Voltage	BV_{ECO}	5	-	-	V	$I_E=0.1mA$ $E=0mW/cm^2$
On state collector current	$I_{C(ON)}$	2000	3600	5500	μA	$V_{CE}=3.3V$, $E=2mW/cm^2$ $\lambda=940nm$
Collector dark current	I_{CEO}	-	-	100	nA	$V_{CE}=10V$ $E=0mW/cm^2$
Collector-Emitter saturation voltage	$V_{CE(sat)}$		0.2	0.4	V	$I_E=0.1mA$ $E=0.5mW/cm^2$
Rise time	t_r	-	10	-	μS	$V_{CE}=3.3V$, $I_C=1mA$ $R_L=1000\Omega$
Fall time	t_f					

Absolute Maximum Rating

P_d (mW)	V_{CEO} (V)	V_{ECO} (V)	I_C (mA)	T_{OP} (°C)	T_{ST} (°C)
100	30	5	50	-40 to +85	-40 to +85

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

On State collector current $I_{C(ON)}$ @ $V_{CE}=3.3V$, $E=2mW/cm^2$, $\lambda=940nm$

Bin	Min.	Max.	Unit
1	2000	3200	μA
2	3200	4500	
3	4500	5500	

Characteristic Curves

AlGaAs/GaAs

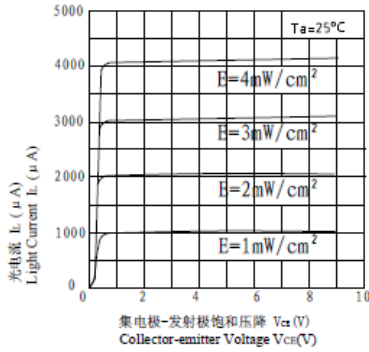
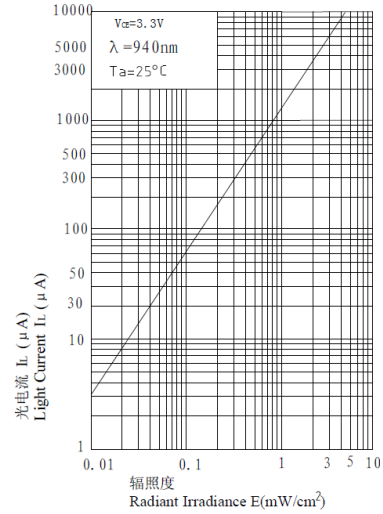


Fig.1 Light Current vs. Collector-emitter Voltage



Light Current vs. Irradiance

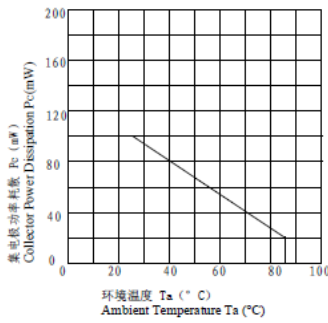


Fig.3 Collector Power Dissipation vs. Ambient Temperature

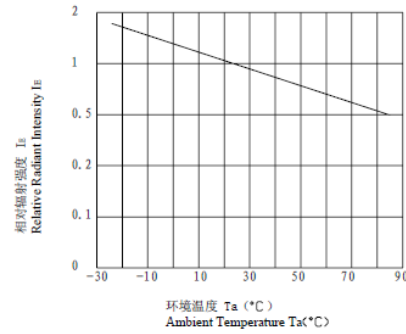


Fig.4 Relative Radiant Intensity vs. Ambient Temperature

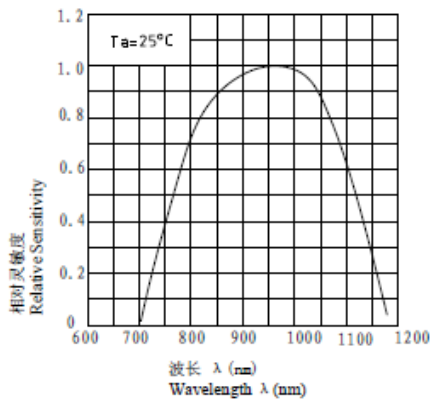


Fig.5 Relative Sensitivity vs. Wavelength

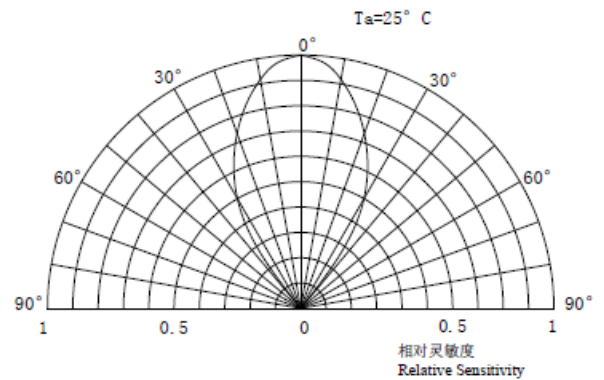


Fig.6 Relative Directional Sensitivity

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per bag
QSC5T50B	QSC5T50B	$\lambda_p=940\text{nm}$ Typ.	500

Revision History

Description:	Revision #	Revision Date
New Release of QSC5T50B	V1.0	05/08/2015

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