

QT-Brightek Photo Transistor Series

5mm lamp LED

Part No.: QSD8T120B

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	Version# 1.2	

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Introduction

Feature:

- Black Color lens
- High photo sensitivity
- Daylight filter
- Photo transistor
- Bulk pack

Description:

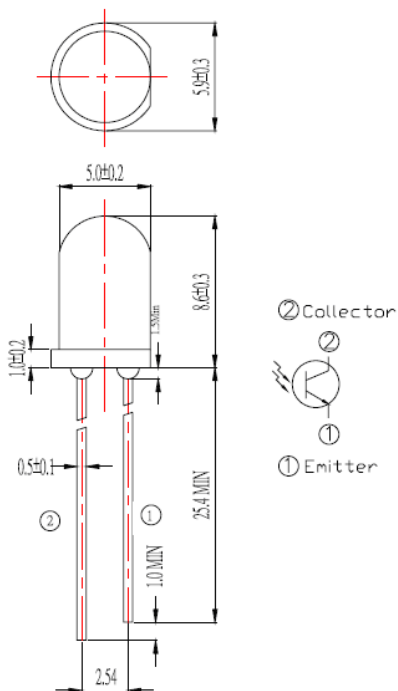
This 5mm photo transistor is ideal for applications that require high sensitivity.

Application:

- Photo copy machines
- Camera
- Printer

Certification & Compliance:

- TS16949
- ISO9001
- RoHS Compliant

**Dimension:**

Units: mm / tolerance = +/-0.25mm

Electrical / Optical Characteristic (T=25 °C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Peak Sensitivity wavelength	λ_P	-		880		nm
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1\text{mA}$,	30	-	-	V
Emitter-Collector Breakdown Voltage	BV_{ECO}	$I_E = 100\ \mu\text{A}$,	5	-	-	V
On state collector current	$I_{C(ON)}$	$E_e = 0.5\text{mW}/\text{cm}^2$, $V_{CE} = 5\text{V}$	4.5	-	15	mA
Collector Emitter dark current	I_{CEO}	$E_e = 0$ $V_{CE} = 10\text{V}$	-	-	100	nA
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$E_e = 0.5\text{mW}/\text{cm}^2$, $I_C = 0.5\ \text{mA}$	-	-	0.4	V
Rise time	t_r	$V_{CE} = 5\text{V}$ $R_L = 100\ \Omega$ $I_C = 0.2\text{mA}$	-	7	-	us
Fall time	t_f					
Viewing Angle	21/2θ	-	-	30	-	deg

Absolute Maximum Rating

Type	P_d (mW) (at or below 25 °C)	V_{CEO} (V)	V_{ECO} (V)	I_C (mA)	T_{OP} (°C)	T_{ST} (°C)	T_{solder} (°C)*
Photo Transistor	100	30	5	20	-40 to + 100	-40 to +100	260

* wave solder for no more than 5 sec @ 260 °C

Characteristic Curves

AlGaAs

Figure 3. Dark Current vs. Collector - Emitter Voltage

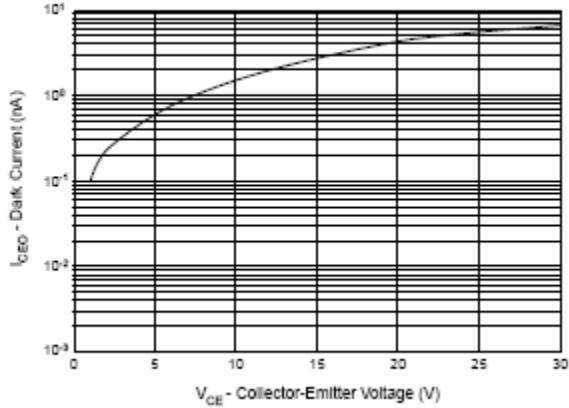


Fig.4 Collector Current vs. Irradiance

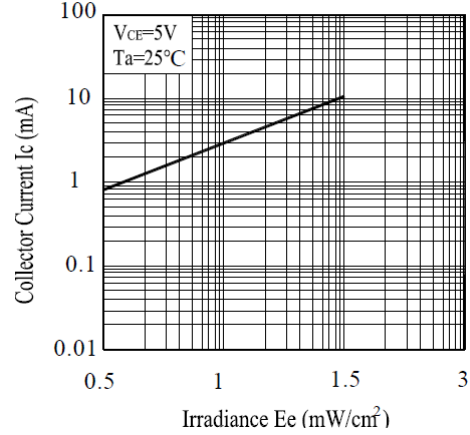


Fig.5 Collector Dark Current vs. Ambient Temperature

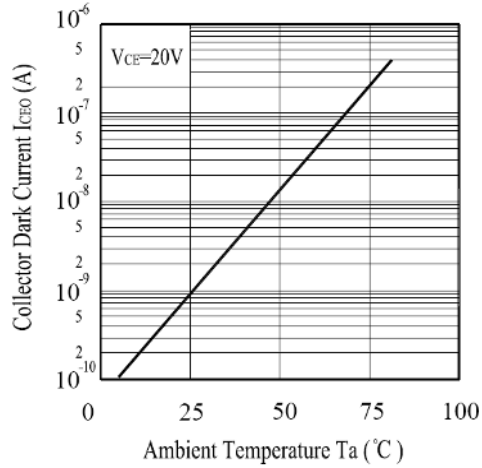
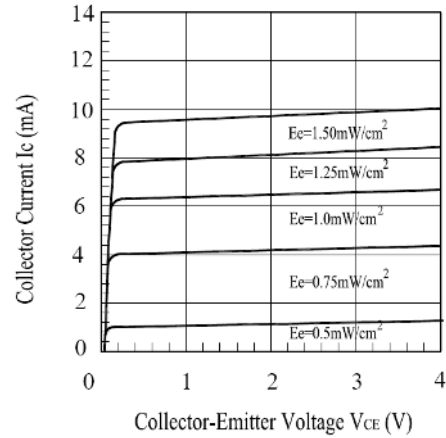


Fig.6 Collector Current vs. Collector-Emitter Voltage



Packing**Bulk pack 500pcs****Labeling****Part No:** _____**Customer Lot No:** _____**Item:** _____**Q'ty:** _____

PT Ic(ON)

Date: _____

ROHS

PASS

Ordering Information

Part #	Orderable Part #	Spec Range	Quantity per bag
QSD8T120B	QSD8T120B	Ic(on) = 4.5 mA min.	500 units

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Revision History

Description:	Revision #	Revision Date
New Release of QSD8T120B	V1.0	06/25/2011
Update format	V1.1	06/03/2013
Update spec	V2.0	09/22/2014

Disclaimer

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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.

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