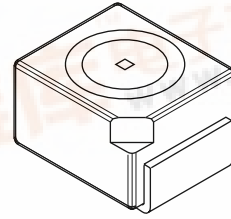
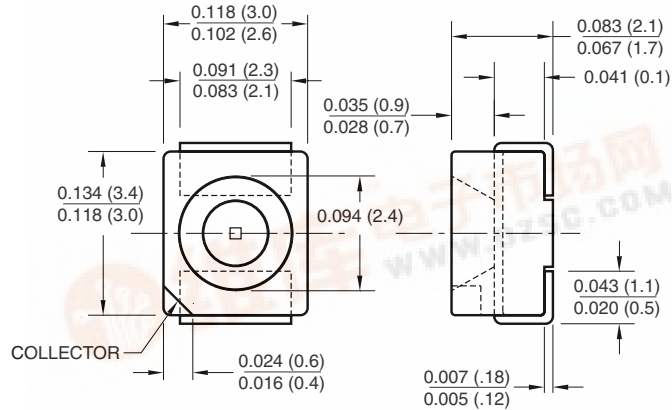


QSB320

SURFACE MOUNT SILICON INFRARED PHOTOTRANSISTOR

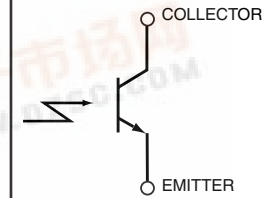
PACKAGE DIMENSIONS



FEATURES

- Surface Mount PLCC-2 Package
- Wide Reception Angle, 120°
- High Sensitivity
- Phototransistor Output
- Matched Emitter: QEB421

SCHEMATIC



NOTES:

1. Dimensions for all drawings are in inches (millimeters).
2. Tolerance of $\pm .010$ (.25) on all non nominal dimensions unless otherwise specified.

NOTES

1. Derate power dissipation linearly 2.2 mW/°C above 25°C.
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. $\lambda = 940$ nm.

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T _{OPR}	-55 to +100	°C
Storage Temperature	T _{STG}	-55 to +100	°C
Soldering Temperature (Flow) ^(2,3)	T _{SOL-F}	260 for 10 sec	°C
Collector Emitter Voltage	V _{CE}	35	V
Emitter Collector Voltage	V _{EC}	5	V
Collector Current	I _C	15	mA
Power Dissipation ⁽¹⁾	P _D	165	mW

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A = 25°C)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Peak Sensitivity Wavelength		λ_{PS}	—	880	—	nm
Wavelength Sensitivity Range		λ_{SR}	400	—	1000	nm
Reception Angle		θ	—	120	—	Deg.
Collector Emitter Dark Current	V _{CE} = 25 V, E _e = 0	I _D	—	—	200	nA
Collector Emitter Breakdown	I _C = 1 mA	BV _{CEO}	30	—	—	V
Emitter Collector Breakdown	I _E = 100 μ A	BV _{ECO}	5	—	—	V
On-State Collector Current	E _e = 0.1 mW/cm ² ⁽⁴⁾ , V _{CE} = 5 V	I _C (ON)	16	—	—	μ A
Saturation Voltage	E _e = 0.5 mW/cm ² ⁽⁴⁾ , I _C = 0.05 mA	V _{CE} (SAT)	—	—	0.3	V
Rise Time	V _{CC} = 5 V, R _L = 100 Ω	t _r	—	8	—	μ s
Fall Time	I _C = 1 mA	t _f	—	8	—	μ s

Fig.1 Dark Current Vs. Ambient Temperature

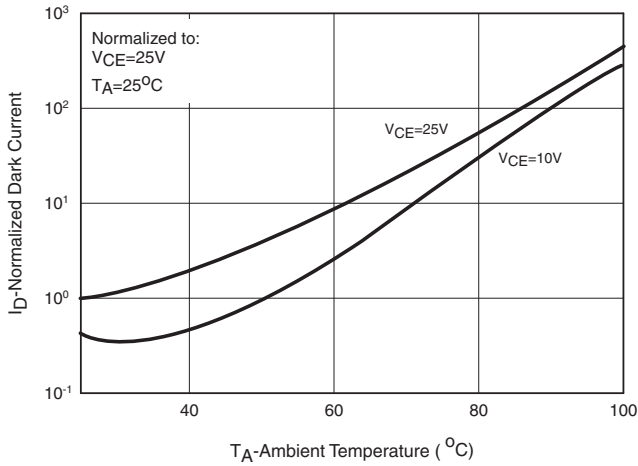


Fig.2 Dark Current Vs. Collector Emitter Voltage

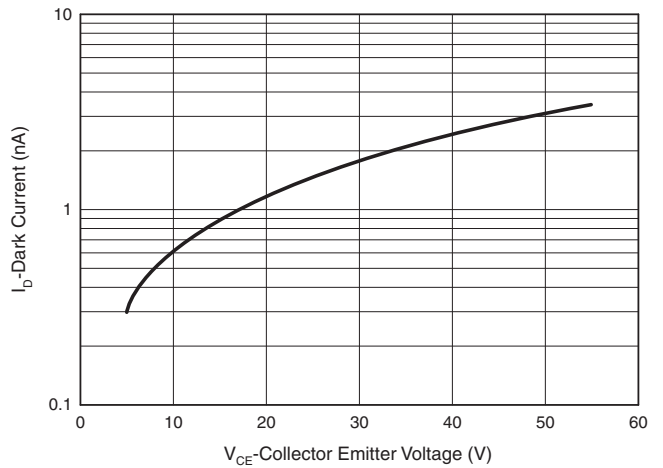


Fig.3 Light Current Vs. Collector to Emitter Voltage

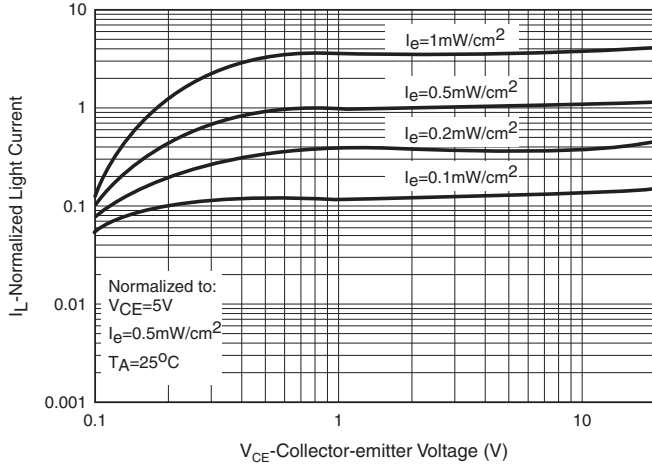
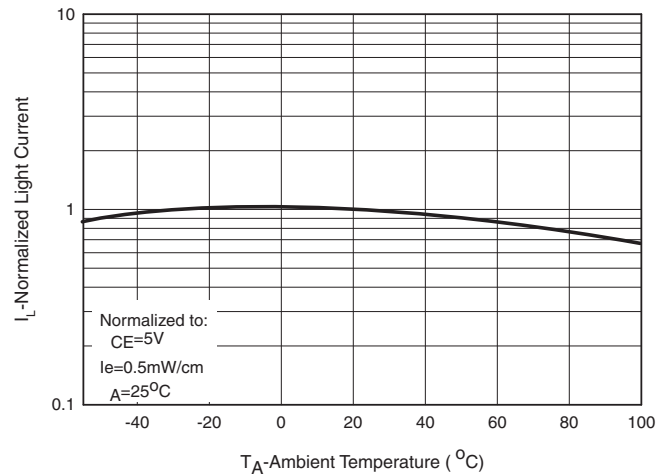


Fig.4. Light Current Vs. Ambient Temperature



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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.
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