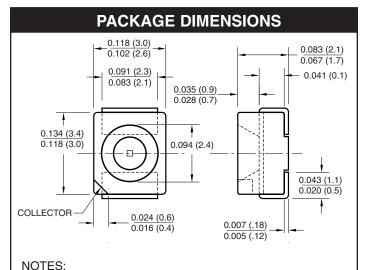
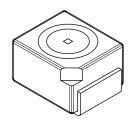
SEMICONDUCTOR"

QSB320

SURFACE MOUNT SILICON **INFRARED PHOTOTRANSISTOR**

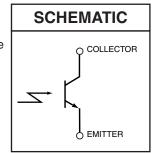


- 1. Dimensions for all drawings are in inches (millimeters).
- 2. Tolerance of \pm .010 (.25) on all non nominal dimensions unless otherwise specified.



FEATURES

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



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					

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. $\lambda = 940 \text{ nm}$.

ELECTRICAL / OPTICAL CHARACTERISTICS (TA =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	$V_{CE} = 25 \text{ V}, E_e = 0$	I _D	_	_	200	nA			
Collector Emitter Breakdown	$I_C = 1 \text{ mA}$	BV_CEO	30	_	_	V			
Emitter Collector Breakdown	$I_E = 100 \mu A$	BV_{ECO}	5	_	_	V			
On-State Collector Current	$E_e = 0.1 \text{ mW/cm}^{2(4)}, V_{CE} = 5 \text{ V}$	I _{C (ON)}	16	_	_	μΑ			
Saturation Voltage	$E_{\rm e} = 0.5 \text{ mW/cm}^{2(4)}, I_{\rm C} = 0.05 \text{ mA}$	V _{CE (SAT)}	_	_	0.3	V			
Rise Time	V_{CC} = 5 V, R_L = 100 Ω	t _r	_	8	_	μs			
Fall Time	$I_C = 1 \text{ mA}$	t_f	_	8	_	μs			



QSB320 SURFACE MOUNT SILICON INFRARED PHOTOTRANSISTOR

Fig.1 Dark Current Vs. Ambient Temperature

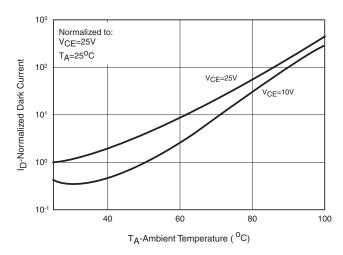


Fig.3 Light Current Vs. Collector to Emitter Voltage

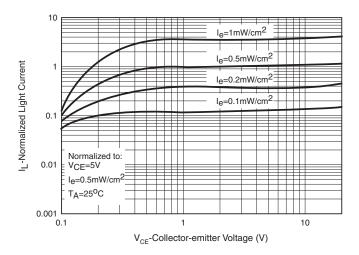


Fig.2 Dark Current Vs. Collector Emitter Voltage

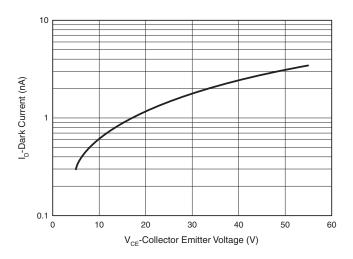
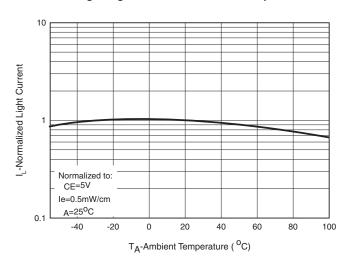


Fig4. Light Current Vs. Ambient Temperature





QSB320 SURFACE MOUNT SILICON INFRARED PHOTOTRANSISTOR

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- 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.