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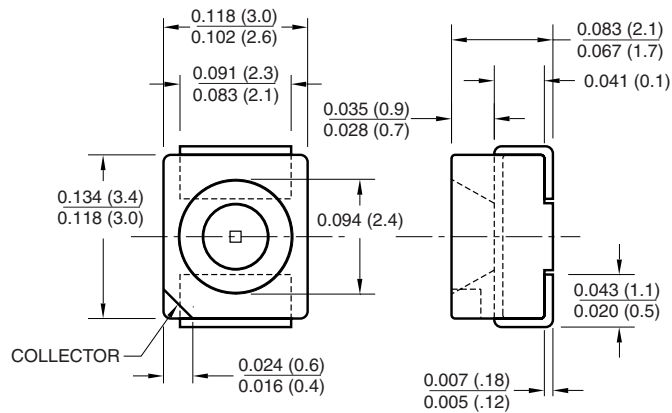
ON Semiconductor®

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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

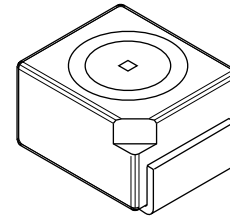
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PACKAGE DIMENSIONS



NOTES:

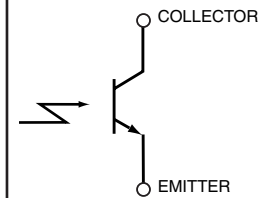
1. Dimensions for all drawings are in inches (millimeters).
2. Tolerance of $\pm .010$ (.25) on all non nominal dimensions unless otherwise specified.



FEATURES

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

SCHEMATIC



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-55 to +100	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +100	$^\circ\text{C}$
Soldering Temperature (Flow) ^(2,3)	T_{SOL-F}	260 for 10 sec	$^\circ\text{C}$
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/ $^\circ\text{C}$ above 25 $^\circ\text{C}$.
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. $\lambda = 940$ nm.

ELECTRICAL / OPTICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Peak Sensitivity Wavelength		λ_{PS}	—	880	—	nm
Wavelength Sensitivity Range		λ_{SR}	700	—	1000	nm
Reception Angle		θ	—	120	—	Deg.
Collector Emitter Dark Current	$V_{CE} = 25$ V, $E_o = 0$	I_D	—	—	200	nA
Collector Emitter Breakdown	$I_C = 1$ mA	BV_{CEO}	30	—	—	V
Emitter Collector Breakdown	$I_E = 100$ μA	BV_{ECO}	5	—	—	V
On-State Collector Current	$E_o = 0.1$ mW/cm ² ⁽⁴⁾ , $V_{CE} = 5$ V	$I_{C(ON)}$	16	—	—	μA
Saturation Voltage	$E_o = 0.5$ 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	—	μs
Fall Time	$I_C = 1$ mA	t_f	—	8	—	μs

Fig.1 Dark Current Vs. Ambient Temperature

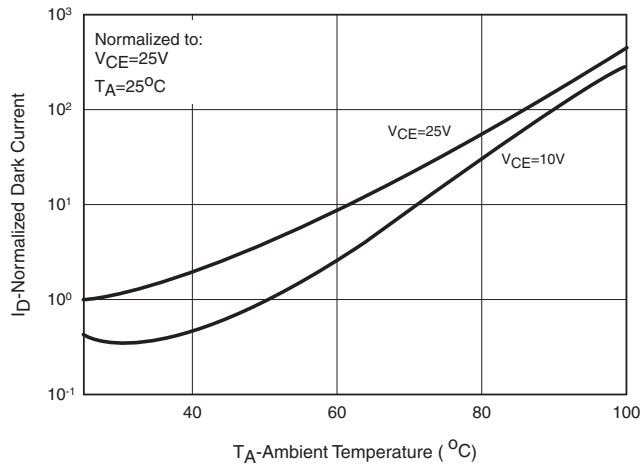


Fig.2 Dark Current Vs. Collector Emitter Voltage

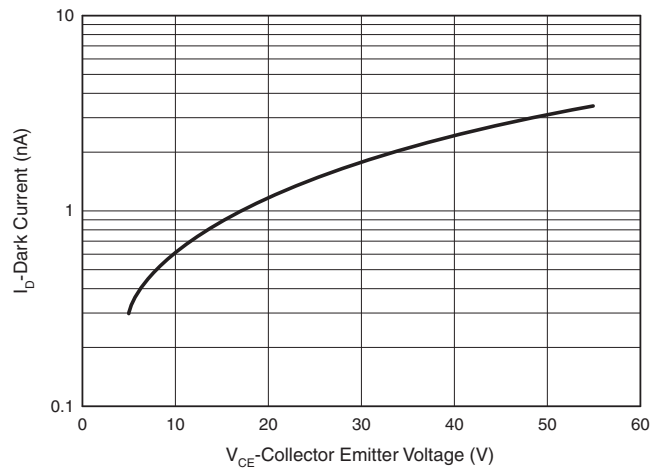


Fig.3 Light Current Vs. Collector to Emitter Voltage

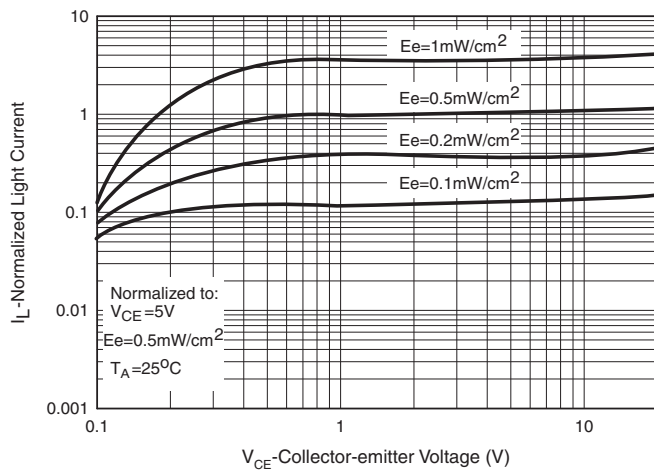
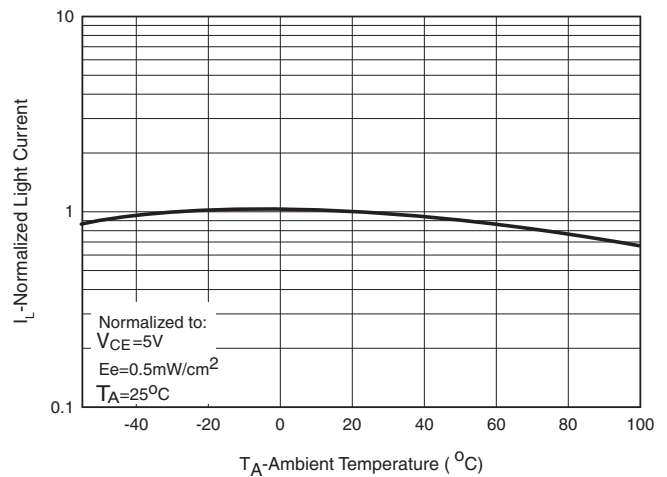


Fig.4. Light Current Vs. Ambient Temperature



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