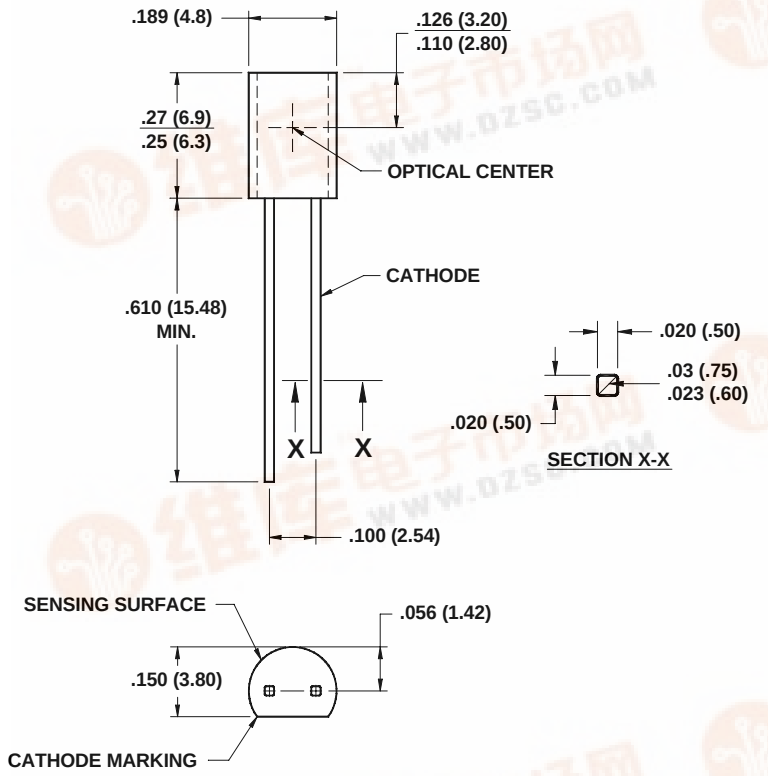
FAIRCHILD
SEMICONDUCTOR®

SIDELOOKER PIN PHOTODIODE

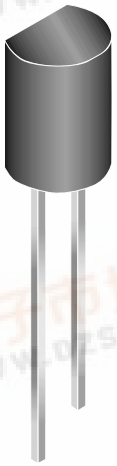
QSE973

PACKAGE DIMENSIONS

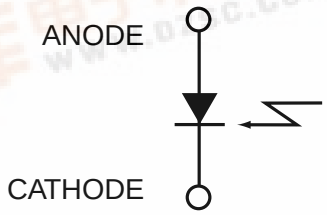


NOTES:

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



SCHEMATIC



DESCRIPTION

The QSE973 is a silicon PIN photodiode encapsulated in an infrared transparent, black, plastic T092 package.

FEATURES

- Daylight filter
- T092 package
- PIN photodiode
- Recepting angle 90°
- Chip size = .107^2 sq. inches (2.71^2 sq. mm)

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

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{OPR}	-40 to +85	°C
Storage Temperature	T_{STG}	-40 to +85	°C
Soldering:			
Lead Temperature (Iron) (2,3,4,5)	T_{SOL}	240 for 5 sec	°C
Lead Temperature (Flow) (2,3,5)		260 for 10 sec	
Reverse Voltage	V_R	32	V
Power Dissipation 25°C Ambient (2)	P_D	150	mW

ELECTRICAL CHARACTERISTICS (T_A =25°C)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Reverse Breakdown Voltage	I_R = 0.1 mA	V_R	32	—	—	V
Dark Reverse Current	V_R = 10 V	$I_{R(D)}$	—	—	30	nA
Peak Sensitivity	V_R = 5 V	λ_{PS}	—	930	—	nM
Reception Angle at 1/2 Power		Θ	—	90	—	Deg.
Photocurrent (6)	V_{CE} = 5 V, E_e = 1.0 mW/cm^2	Iph	30	—	—	µA
Capacitance	V_R = 3 V	C	—	20	—	pF
Rise Time	V_R = 5 V, R_L = 1 KΩ	t_r	—	50	—	nS
Fall Time	V_R = 5 V, R_L = 1 KΩ	t_f	—	50	—	nS

NOTE:

1. Derate power dissipation linearly 2.5 mW/°C above 25°C.
2. RMA flux is recommended.
3. Methanol or Isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron tip 1/16” (1.6 mm) from housing.
5. As long as leads are not under any stress or spring tension.
6. Light source is an GaAs LED which has a peak emission wavelength of 940 nm.

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Fig. 1 Relative Spectral Sensitivity vs. Wavelength

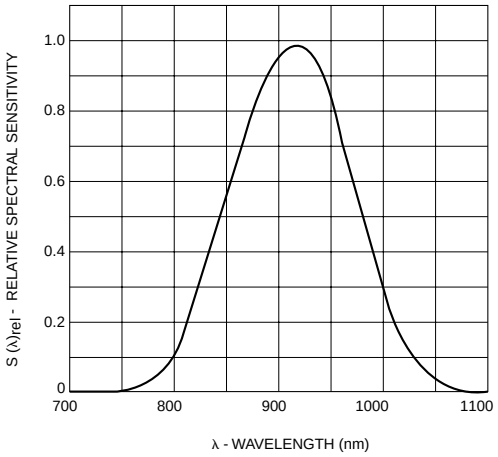


Fig. 2 Short Circuit Current vs. Irradiance

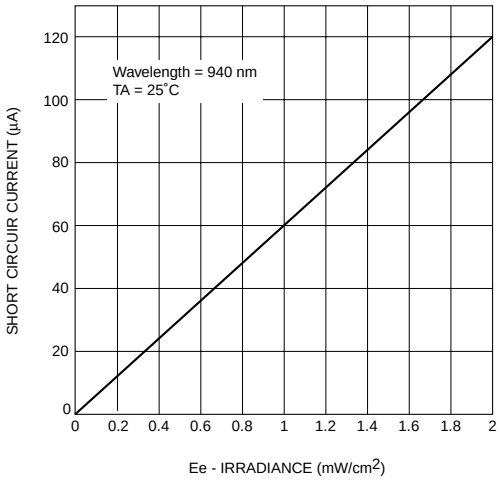


Fig. 3 Capacitance vs. Reverse Voltage

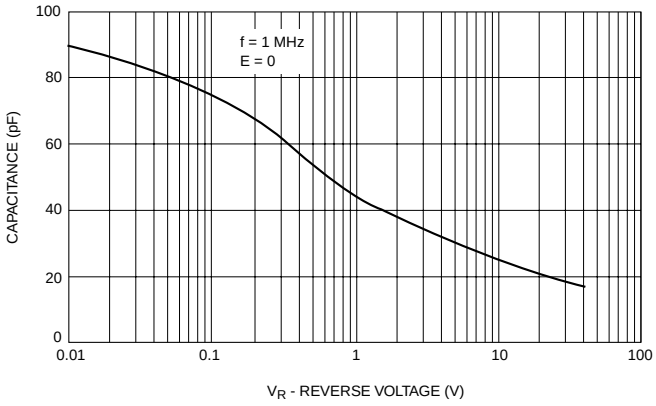


Fig. 4 Dark Current vs. Temperature

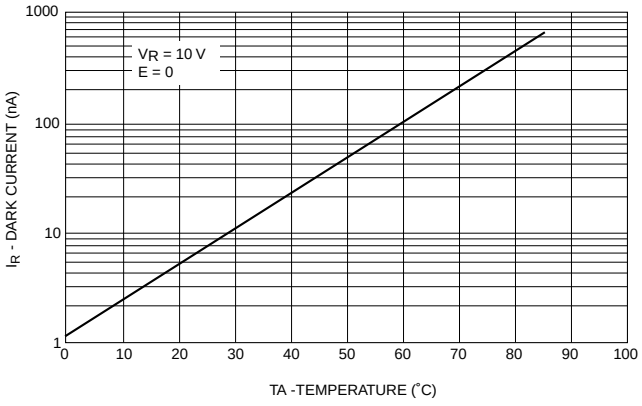
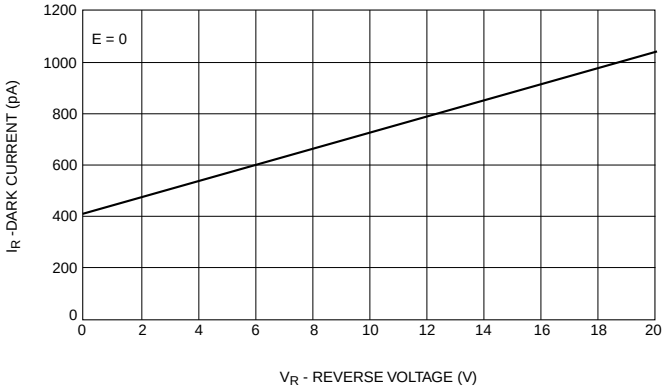


Fig. 5 Dark Current vs. Reverse Voltage



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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.