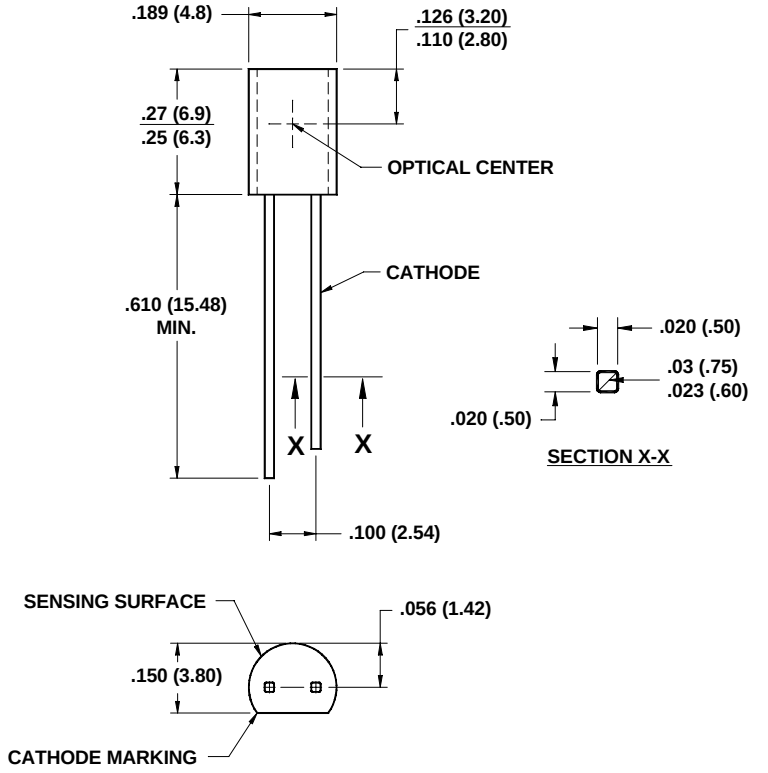
FAIRCHILD
SEMICONDUCTOR®

SIDELOOKER PIN PHOTODIODE

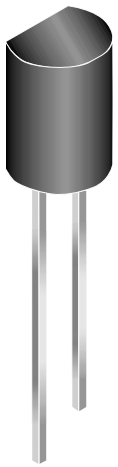
QSE973

PACKAGE DIMENSIONS

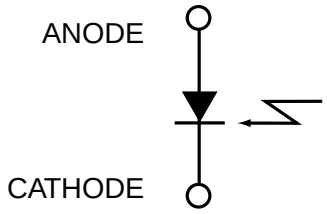


NOTES:

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)

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.

Fig. 1 Relative Spectral Sensitivity vs. Wavelength

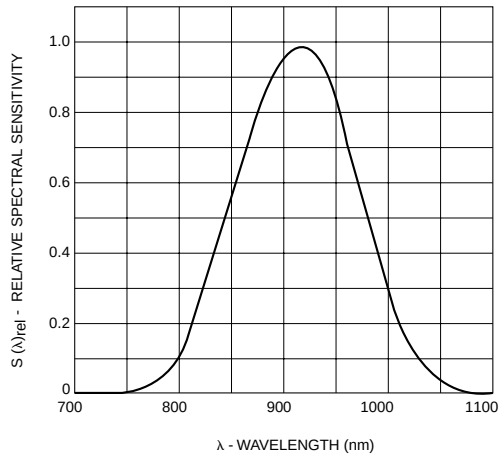


Fig. 2 Short Circuit Current vs. Irradiance

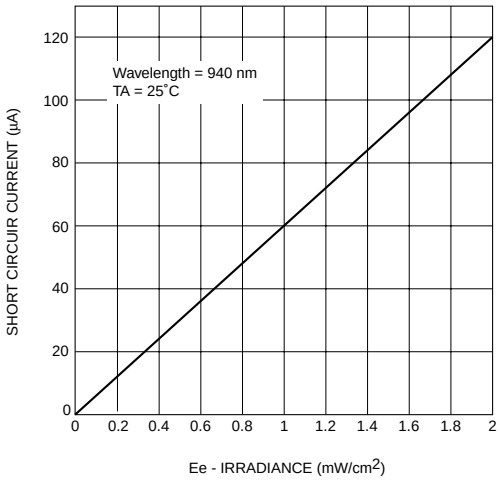


Fig. 3 Capacitance vs. Reverse Voltage

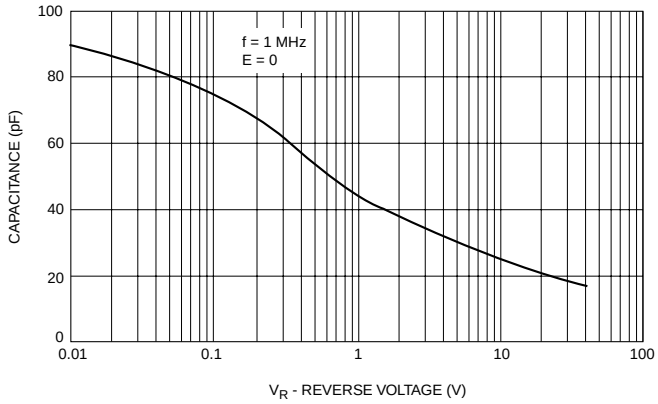


Fig. 4 Dark Current vs. Temperature

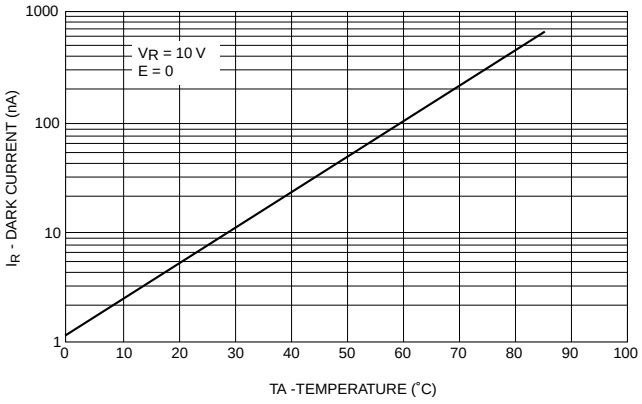
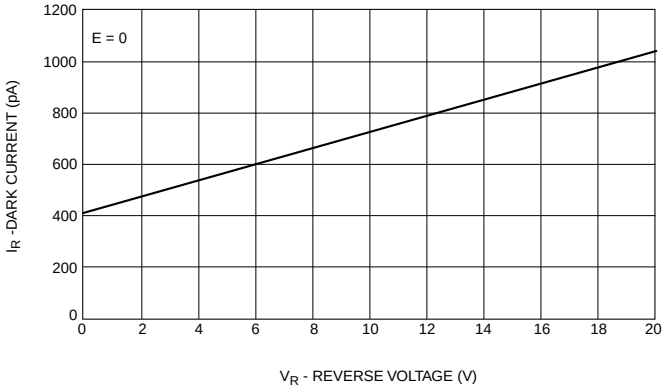


Fig. 5 Dark Current vs. Reverse Voltage



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