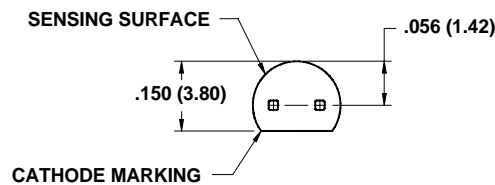
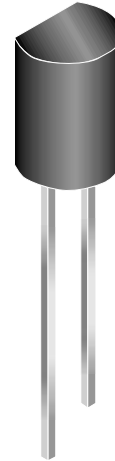
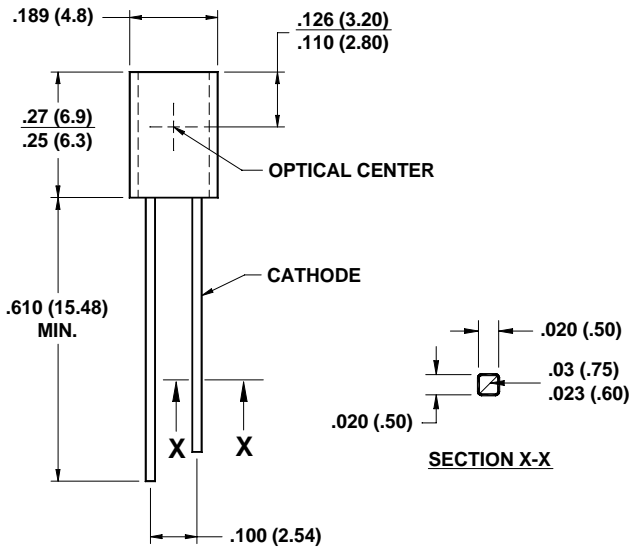


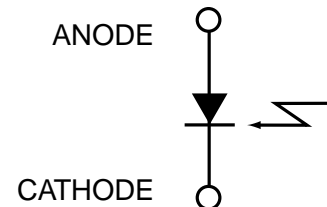
### PACKAGE DIMENSIONS



**NOTES:**

1. Dimensions for all drawings are in inches (mm).
2. Tolerance of  $\pm .010 (.25)$  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
- Receiving angle 90°
- Chip size =  $.107^2$  sq. inches ( $2.71^2$  sq. mm)

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Operating Temperature	T <sub>OPR</sub>	-40 to +85	°C
Storage Temperature	T <sub>STG</sub>	-40 to +85	°C
Soldering:			
Lead Temperature (Iron) (2,3,4,5)	T <sub>SOL</sub>	240 for 5 sec	°C
Lead Temperature (Flow) (2,3,5)		260 for 10 sec	
Reverse Voltage	V <sub>R</sub>	32	V
Power Dissipation 25°C Ambient (2)	P <sub>D</sub>	150	mW

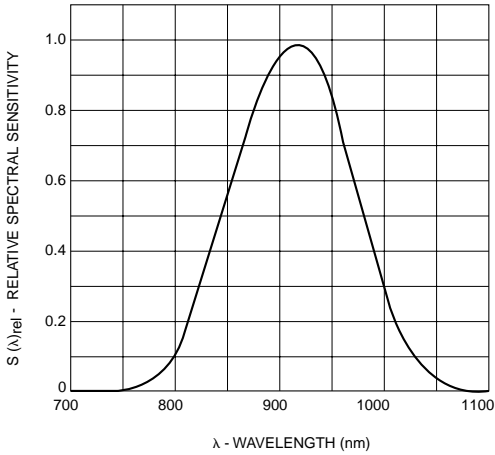
### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
Reverse Breakdown Voltage	I <sub>R</sub> = 0.1 mA	V <sub>R</sub>	32	—	—	V
Dark Reverse Current	V <sub>R</sub> = 10 V	I <sub>R(D)</sub>	—	—	30	nA
Peak Sensitivity	V <sub>R</sub> = 5 V	λ <sub>PS</sub>	—	930	—	nM
Reception Angle at 1/2 Power		θ	—	90	—	Deg.
Photocurrent (6)	V <sub>CE</sub> = 5 V, E <sub>e</sub> = 1.0 mW/cm <sup>2</sup>	I <sub>ph</sub>	30	—	—	μA
Capacitance	V <sub>R</sub> = 3 V	C	—	20	—	pF
Rise Time	V <sub>R</sub> = 5 V, R <sub>L</sub> = 1 KΩ	t <sub>r</sub>	—	50	—	nS
Fall Time	V <sub>R</sub> = 5 V, R <sub>L</sub> = 1 KΩ	t <sub>f</sub>	—	50	—	nS

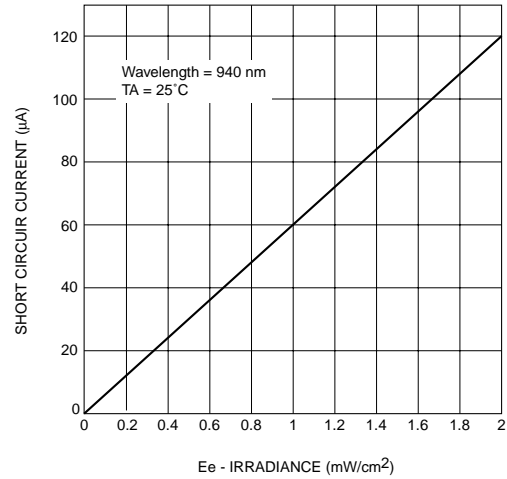
#### NOTE:

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.

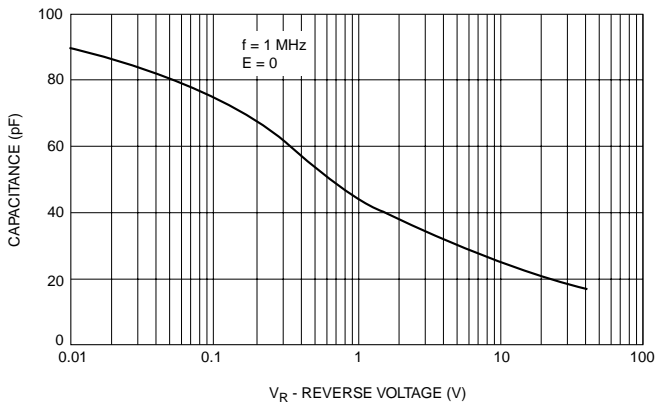
**Fig. 1 Relative Spectral Sensitivity vs. Wavelength**



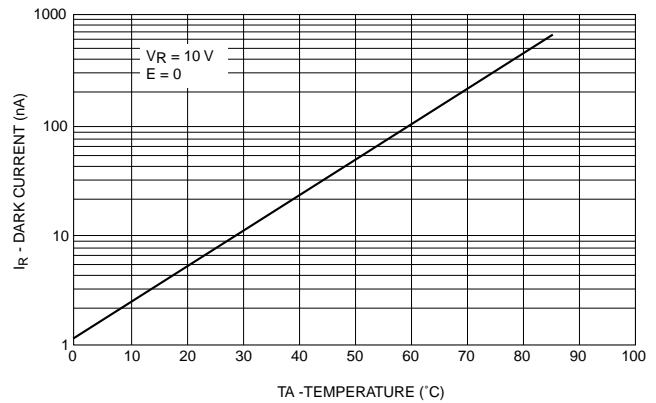
**Fig. 2 Short Circuit Current vs. Irradiance**



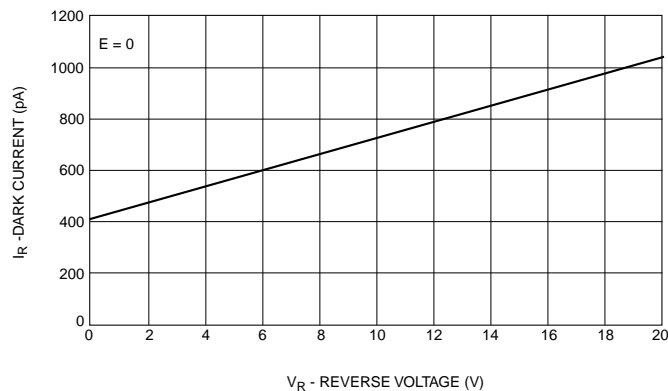
**Fig. 3 Capacitance vs. Reverse Voltage**



**Fig. 4 Dark Current vs. Temperature**



**Fig. 5 Dark Current vs. Reverse Voltage**



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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.