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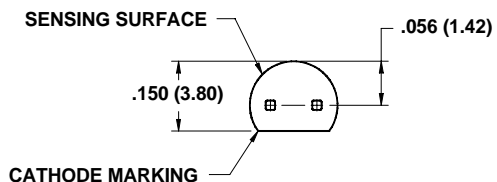
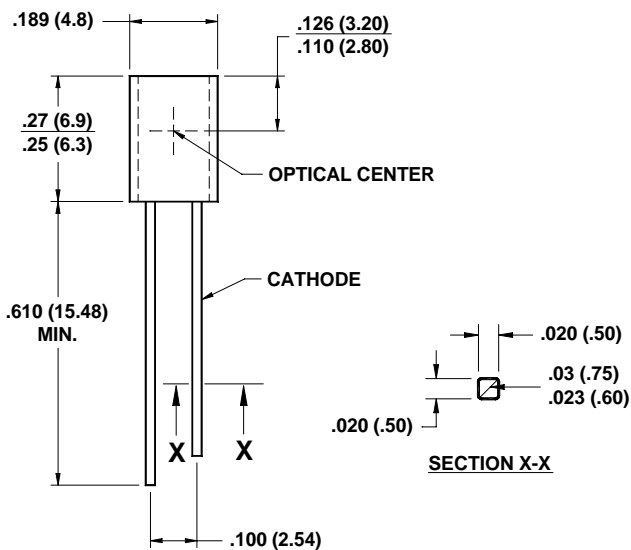


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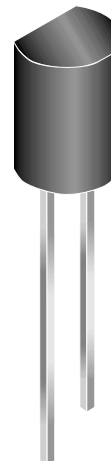
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#### PACKAGE DIMENSIONS

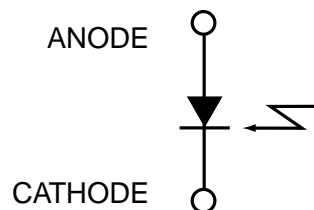


**NOTES:**

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

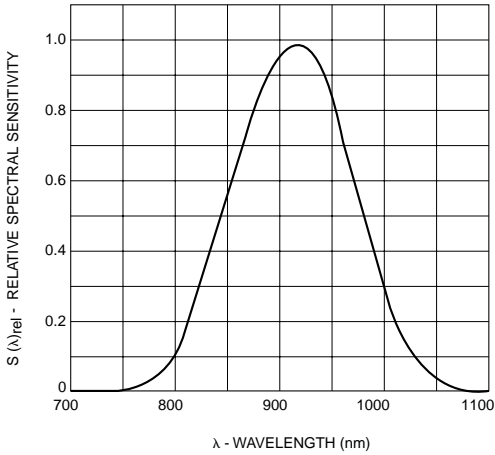
#### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

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

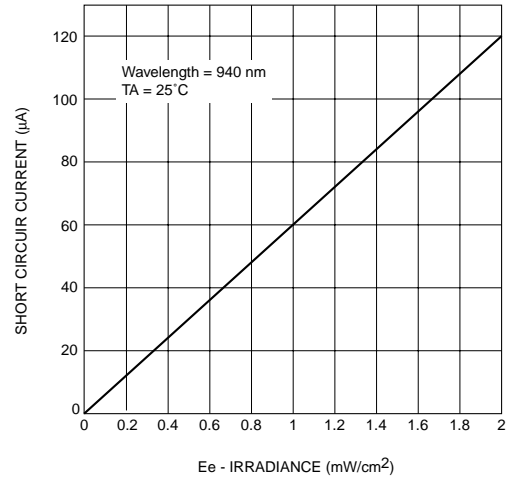
#### NOTE:

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.

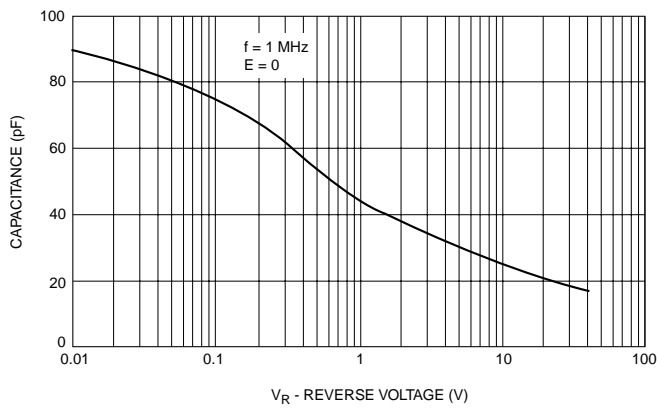
**Fig. 1 Relative Spectral Sensitivity vs. Wavelength**



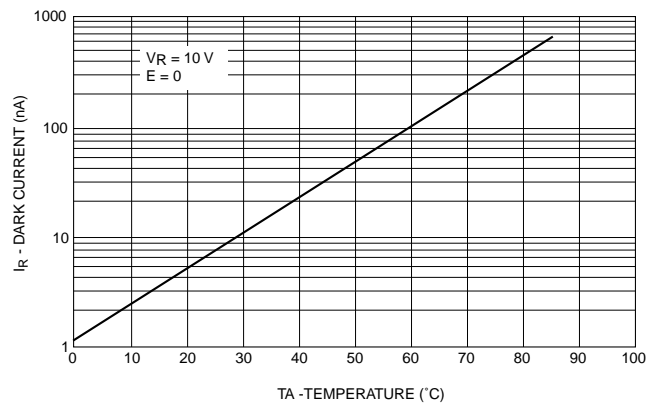
**Fig. 2 Short Circuit Current vs. Irradiance**



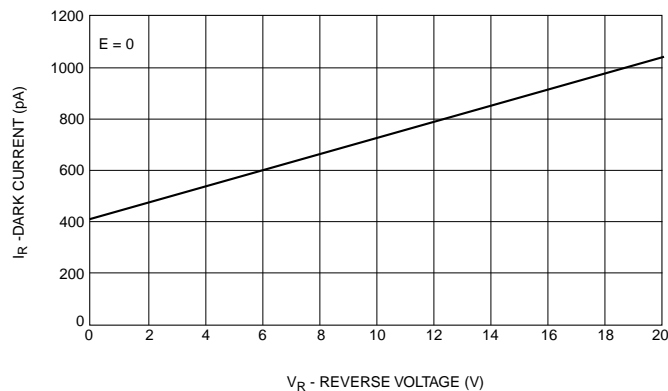
**Fig. 3 Capacitance vs. Reverse Voltage**



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



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



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