

Sensitivity Wavelength Range: 350-1100nm

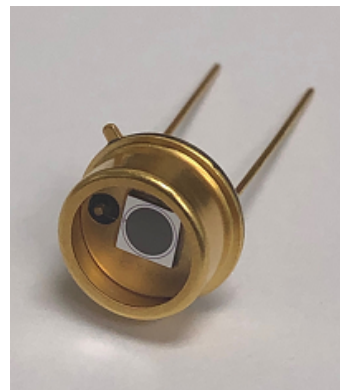
The MT03-001 is a circular ($\varnothing 2.52$) 5mm² active area Silicon Photodiode in a hermetic TO-5 metal can package with a glass window. It is well suited for applications requiring visible and near infrared (NIR) light detection.

Features

- > Ultra Low Noise
- > High Shunt Resistance
- > Wide Dynamic Range
- > Broadband Spectral Coverage

Applications

- > Colorimeters
- > Photometers
- > Spectroscopy Equipment
- > Fluorescence



Absolute Maximum Ratings

Items	Symbol	Rating	Unit
Reverse Voltage	V_R	50	V
Operating Temperature Range	T_{opr}	-40 ~ +100	°C
Storage Temperature Range	T_{stg}	-55 ~ +125	°C
Lead Soldering Temperature*1	T_{ls}	260	°C

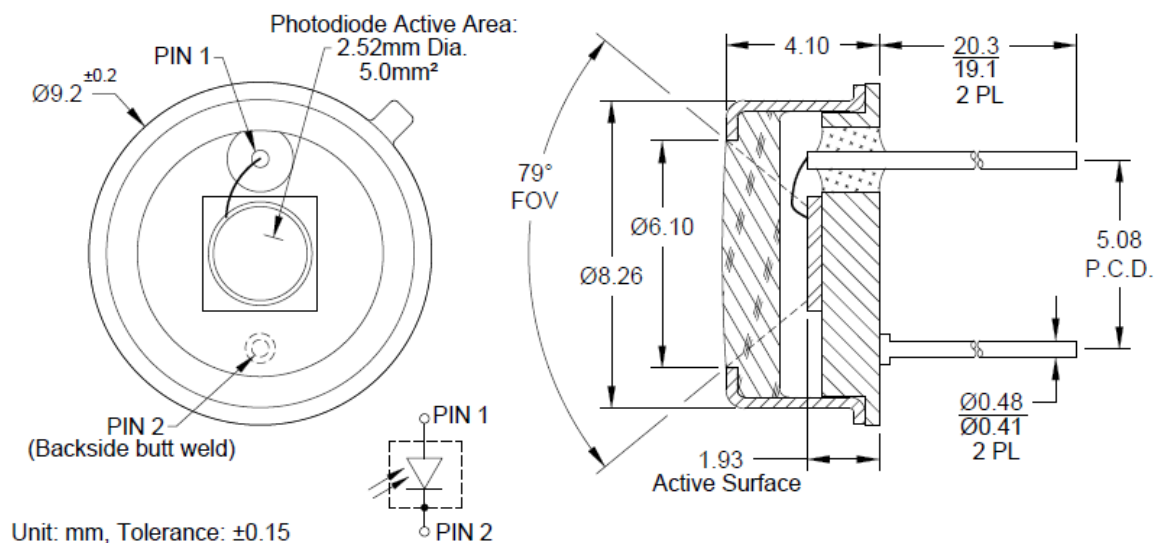


*1: Time 5 Sec max, Position: Up to 3mm from the body.

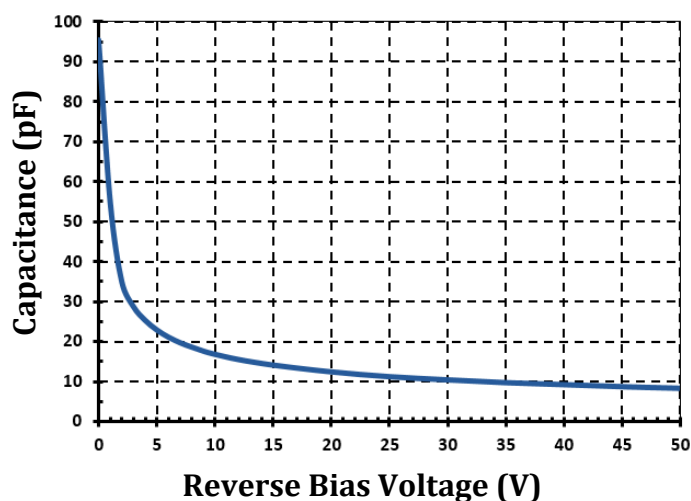
Electrical & Optical Characteristics ($T_a = 23^\circ\text{C}$)

Items	Symbol	Conditions	MIN	TYP	MAX	Unit
Dark Current	I_d	$V_R=5V$	--	0.1	1.0	nA
Breakdown Voltage	$V_{(BR)}$	$I_R=10\mu A$	50	--	--	V
Spectral Sensitivity	λ	--	--	350-1100	--	nm
Peak Sensitivity	λ_p	--	--	950	--	nm
Wavelength Responsivity	R	$V_R=0V, \lambda=633nm$	--	0.38	--	A/W
Responsivity	R	$V_R=0V, \lambda=940nm$	--	0.55	--	A/W
Response Time @635nm	T_r	$R_L=50\Omega, V_R=5V$	--	30	--	ns
Junction Capacitance	C_j	@ 1MHz, $V_R=0V$	--	90	--	pF
Junction Capacitance	C_j	@ 1MHz, $V_R=5V$	--	20	25	pF
Shunt Resistance	R_{sh}	$V_R=10mV$	500	1000	--	MΩ

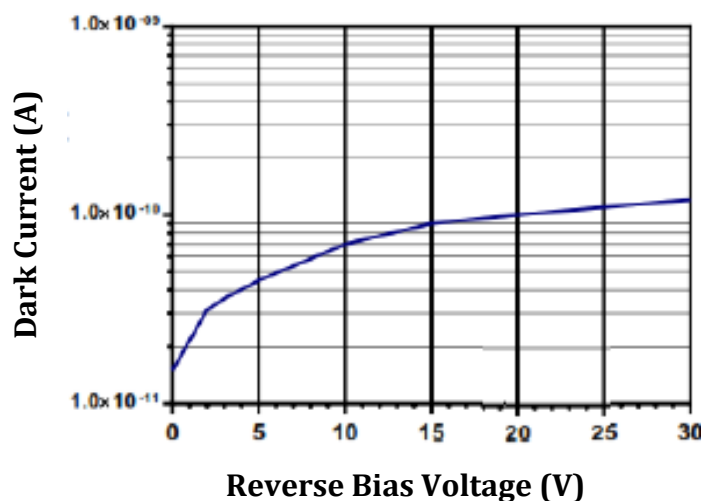
TO-5 Package Dimensions (2 Pin)



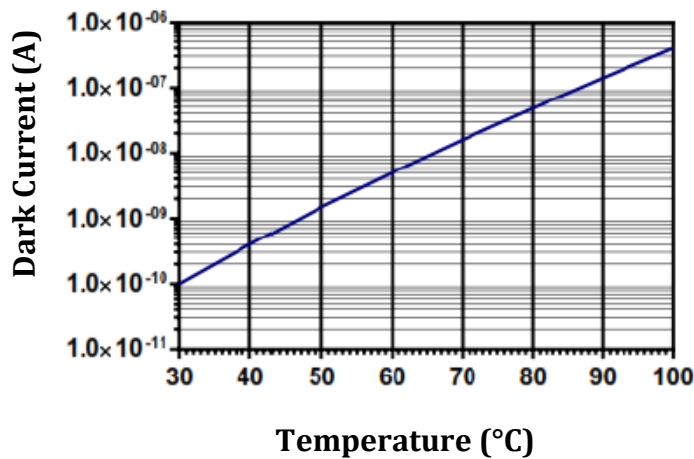
Capacitance vs Reverse Bias



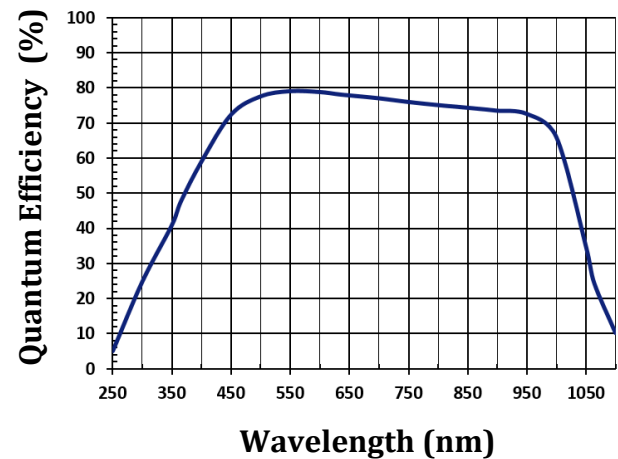
Dark Current vs Reverse Bias (23°C)



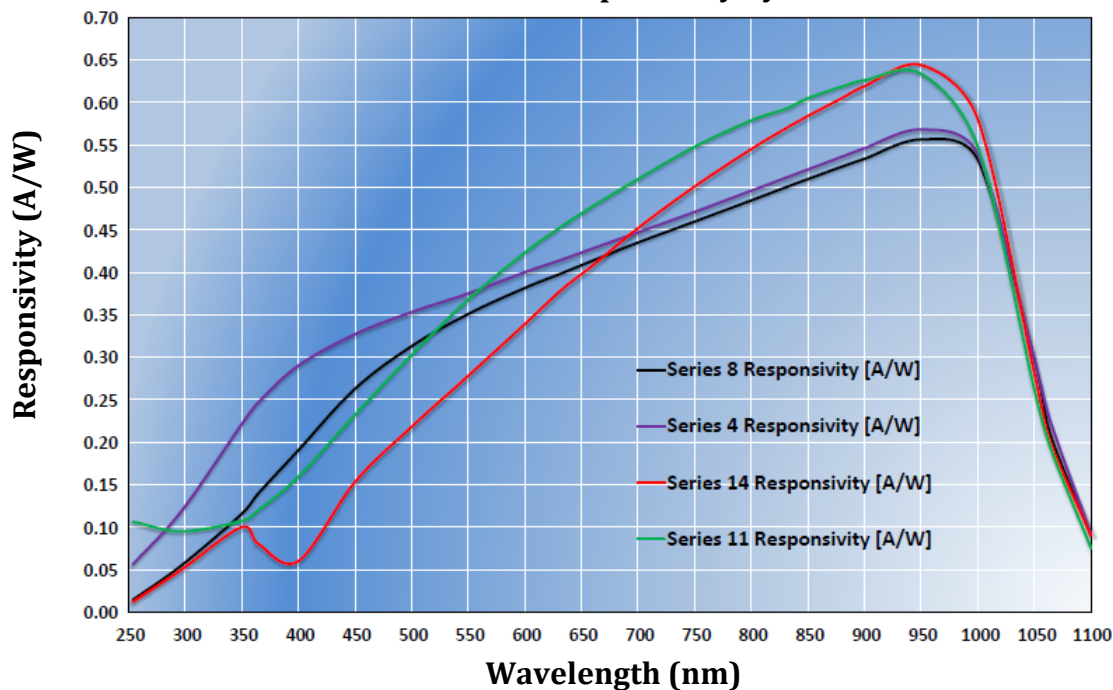
Dark Current vs Temperature ($V_r=10V$)



Series 8 Quantum Efficiency (23°C)



Photodiode Responsivity by Series



The information contained herein is subject to change without notice.

2019-03

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