

## Sensitivity Wavelength Range: 250-1100nm

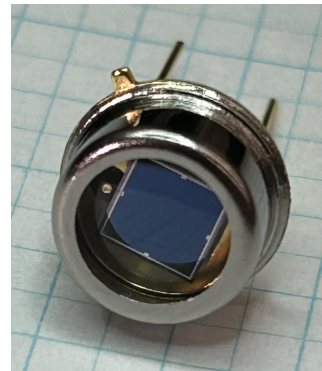
The MT03-083 is a square (3.87mm x 3.87mm) 15mm<sup>2</sup> active area Silicon Photodiode in a hermetic TO-5 metal can package with a UV transmitting glass window. It is optimized for applications requiring high sensitivity in the 300 to 560nm region (UVA, Blue & Green).

### Features

- > Low Noise
- > High Speed
- > Wide Dynamic Range
- > 365nm & Blue/Green Enhanced

### Applications

- > Flame Detection
- > Currency Authentication
- > Spectroscopy Equipment
- > Fluorescence



## Absolute Maximum Ratings

Items	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	50	V
Operating Temperature Range	T <sub>opr</sub>	-40 ~ +100	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ +125	°C
Lead Soldering Temperature*1	T <sub>ls</sub>	260	°C



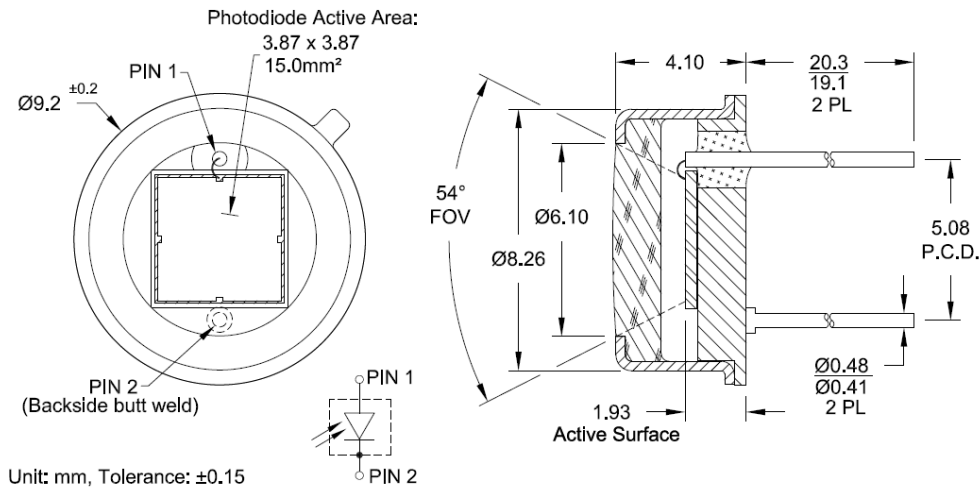
\*1: Time 5 Sec max, Position: Up to 3mm from the body.

## Electrical & Optical Characteristics (T<sub>a</sub> = 23°C)

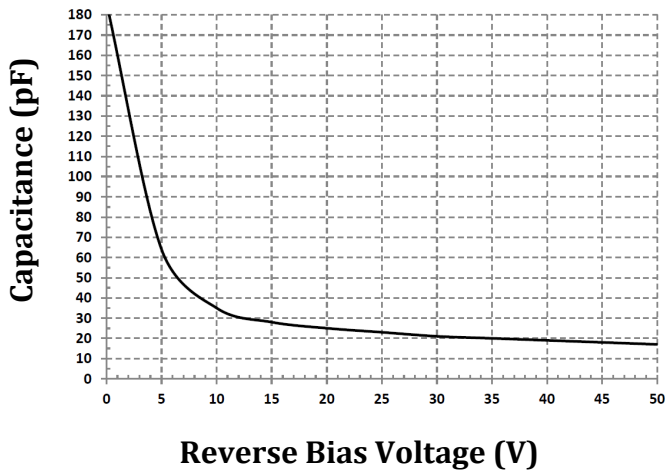
Items	Symbol	Conditions	MIN	TYP	MAX	Unit
Dark Current	I <sub>d</sub>	V <sub>R</sub> =5V	--	0.5	2.0	nA
Breakdown Voltage	V(BR)	I <sub>R</sub> =10μA	50	--	--	V
Spectral Sensitivity	λ	--	--	250-1100	--	nm
Peak Sensitivity Wavelength	λ <sub>p</sub>	--	--	950	--	nm
Responsivity	R	V <sub>R</sub> =0V, λ=365nm	--	0.21	--	A/W
Responsivity	R	V <sub>R</sub> =0V, λ=633nm	--	0.40	--	A/W
Response Time @635nm	T <sub>r</sub>	R <sub>L</sub> =50Ω, V <sub>R</sub> =5V	--	25	--	ns
Junction Capacitance	C <sub>j</sub>	@ 1MHz, V <sub>R</sub> =0V	--	190	--	pF
Junction Capacitance	C <sub>j</sub>	@ 1MHz, V <sub>R</sub> =5V	--	65	80	pF
Shunt Resistance	R <sub>sh</sub>	V <sub>R</sub> =10mV	100	200	--	MΩ

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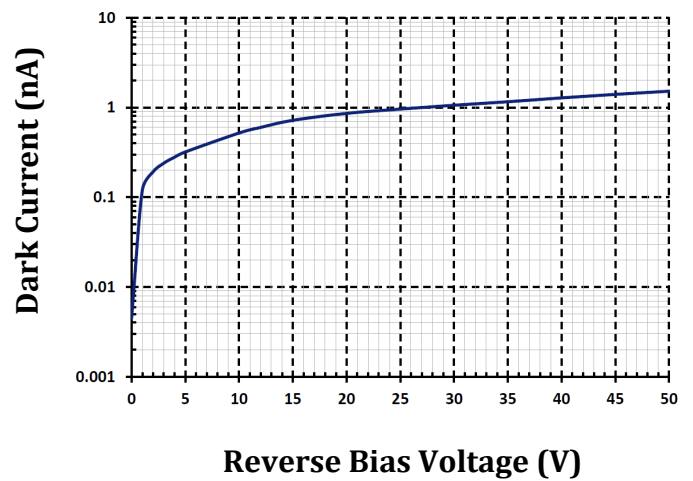
TO-5 Package Dimensions (2 Pin)



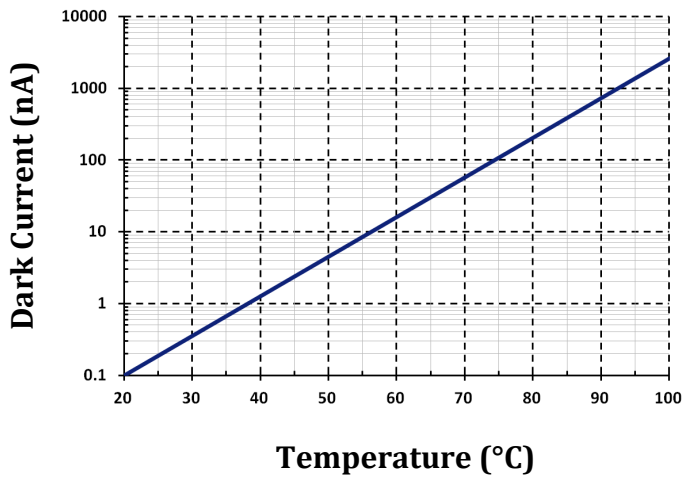
Capacitance vs Reverse Bias



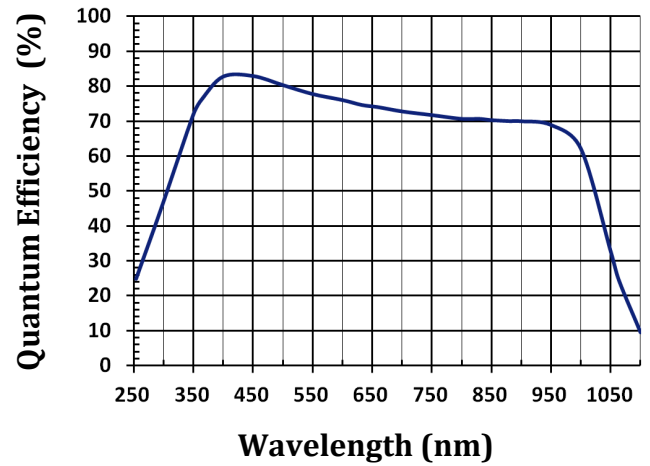
Dark Current vs Reverse Bias (23°C)



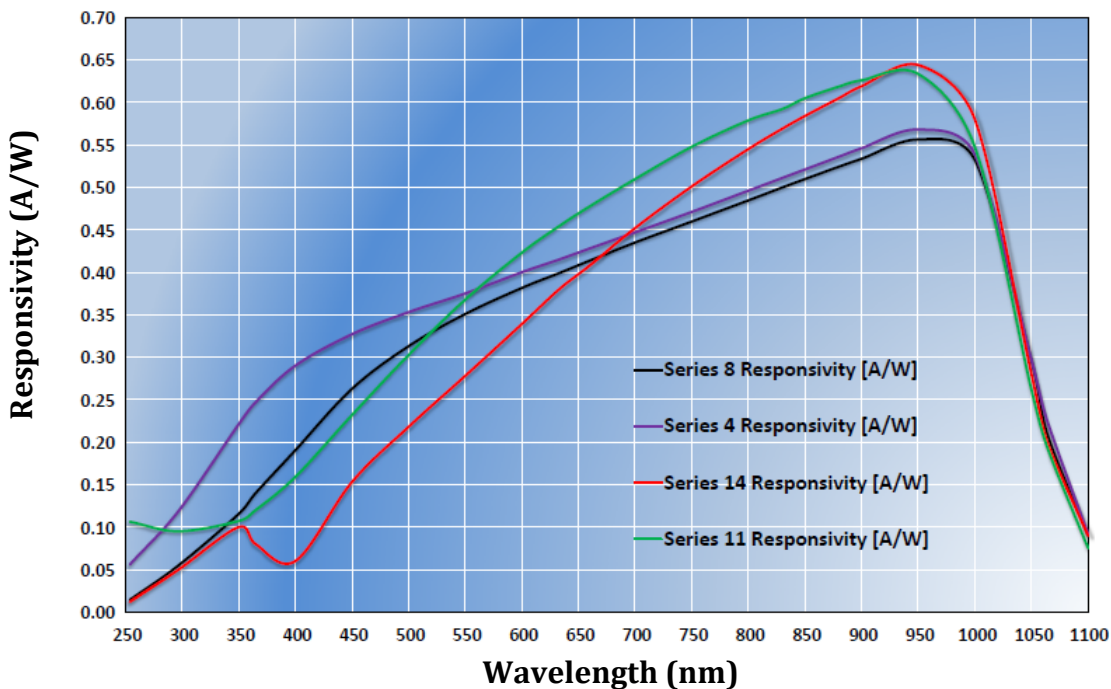
Dark Current vs Temperature ( $V_r=5V$ )



Series 4 Quantum Efficiency (23°C)



Photodiode Responsivity by Series



The information contained herein is subject to change without notice. Graphs display typical data that should not be used to create or extrapolate minimum and/or maximum device specifications.

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