Preliminary

Marktech Optoelectronics

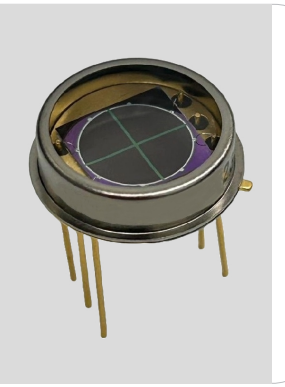
Series 11 Quadrant Silicon Photodiode

Product No: **MT03-091**

Description: QD50PV1-11-8

Sensitivity Wavelength Range: 350nm ~ 1100nm

The MT03-091, is ideally suited for nulling or beam centering applications.
Custom packaging options for this die are also available.



FEATURES

> Peak Sensitivity: 950nm
> TO-8, 6 pin Hermetic Package
> Active Area: 8.0mm Diameter
> 50mm^2 Active Area w/200um Gaps

APPLICATIONS

> Optical Tweezers
> Beam Centering
> Beam Nulling
> Position Centering
> Atomic Force Microscopes (AFM)

Absolute Maximum Ratings

ITEMS	SYMBOL	RATINGS	UNIT
Active Area	Φ	8.0	mm
Operating Temperature Range	Topr	-40 to +85	ºC
Storage Temperature Range	Tstg	-40 to +125	ºC
Lead Soldering Temperature*1	Tls	260	ºC

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

Electrical & Optical Characteristics (Ta = 22ºC)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage	V_{BR}	IR=10uA	50	--	--	V
Sensitivity Range	λ	VR=0V	350	--	1100	nm
Dark Current	Id	VR=10V	--	1	5	nA
NEP @ 880nm		VR=0V; RL=50Ω	--	1x10 $^{-14}$	--	W/Hz $^{1/2}$
Capacitance	Cj	VR=0V; 1MHz	--	200	--	pF
Capacitance	Cj	VR=10V; 1MHz	--	40	50	pF
Responsivity	R	λ=633nm	.40	.45	--	A/W
Responsivity	R	λ=950nm	.60	.64	--	A/W
Forward Voltage	Vf	IF=2mA	--	--	0.8	V
Shunt Resistance	Rsh	VR=+/-10mV	500	800	--	MΩ
Crosstalk	Ct	VR=0V; λ=880nm	--	2	5	%

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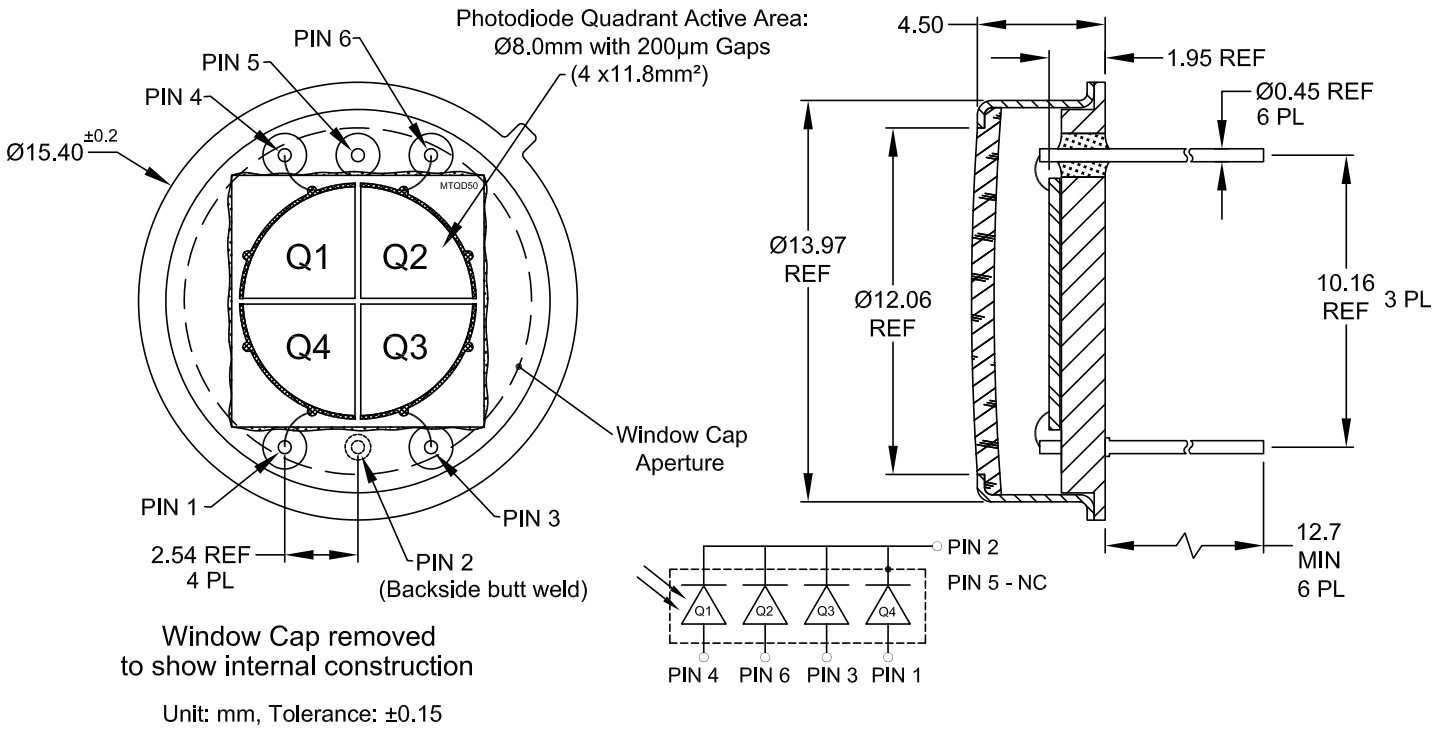
Package Dimensions



Window Cap removed
to show internal construction

Unit: mm, Tolerance: ±0.15

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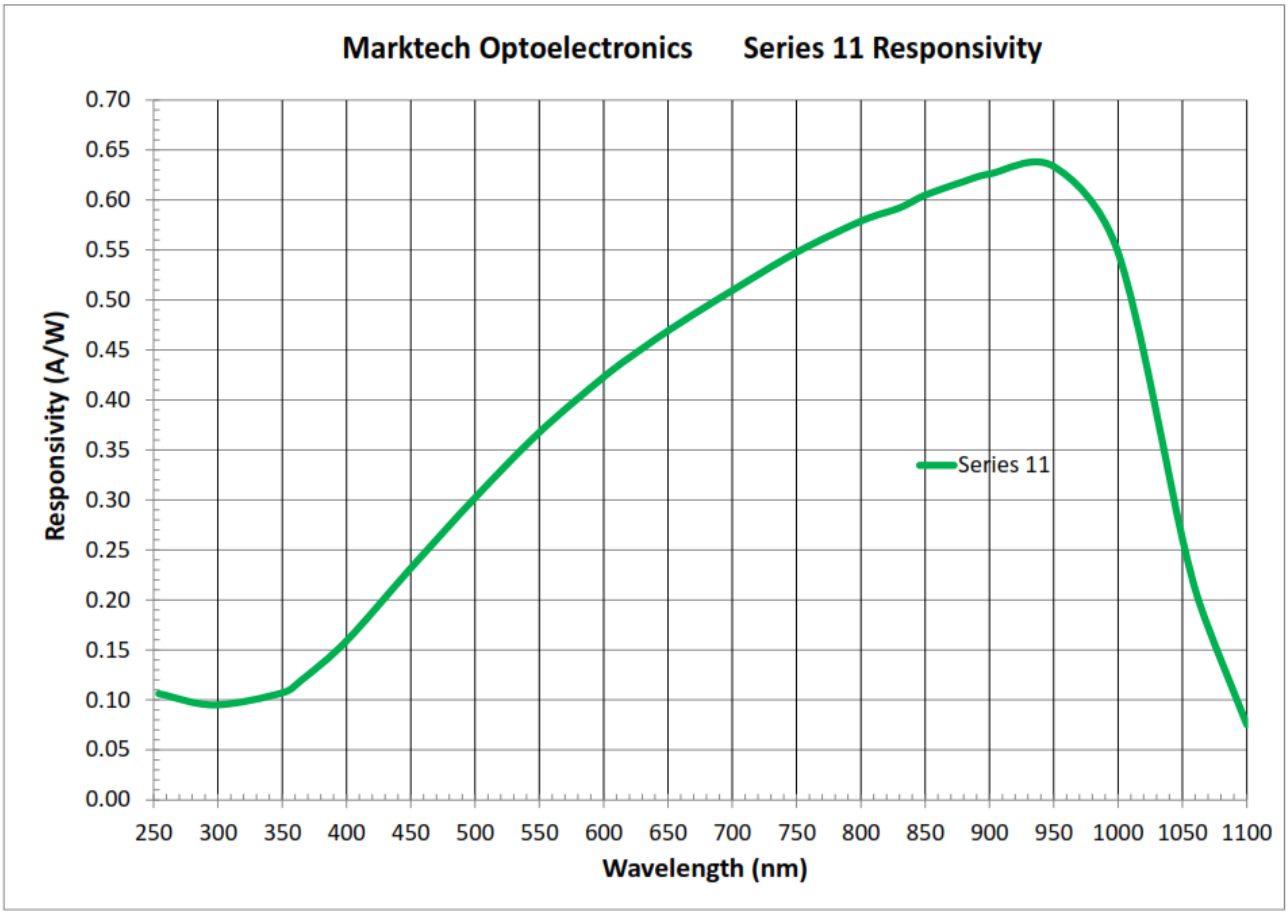
Spectral Responsivity



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