

Enhanced Sensitivity Wavelengths: 250nm-1750nm

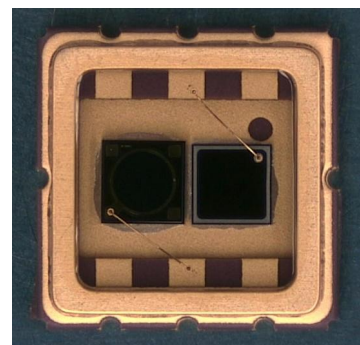
The MT03-047 is a Multi Spectral Photodiode in a ceramic SAW package. It is specifically designed for use with wavelengths ranging from 250nm Ultraviolet (UV) to 1750nm Short Wave Infrared (SWIR).

FEATURES

- > Ultra low noise
- > High Shunt Resistance
- > Wide Dynamic Range
- > 365nm Enhanced Silicon/1300nm InGaAs SWIR

APPLICATIONS

- > Medical
- > Industrial
- > Communications
- > Security



Absolute Maximum Ratings



ITEMS	SYMBOL	RATINGS	UNIT
Reverse Voltage	Vr	50	V
Operating Temperature Range	Topr	-40 ~ +100	°C
Storage Temperature Range	Tstg	-55 ~ +125	°C
Lead Soldering Temperature *1	Tls	260	°C

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

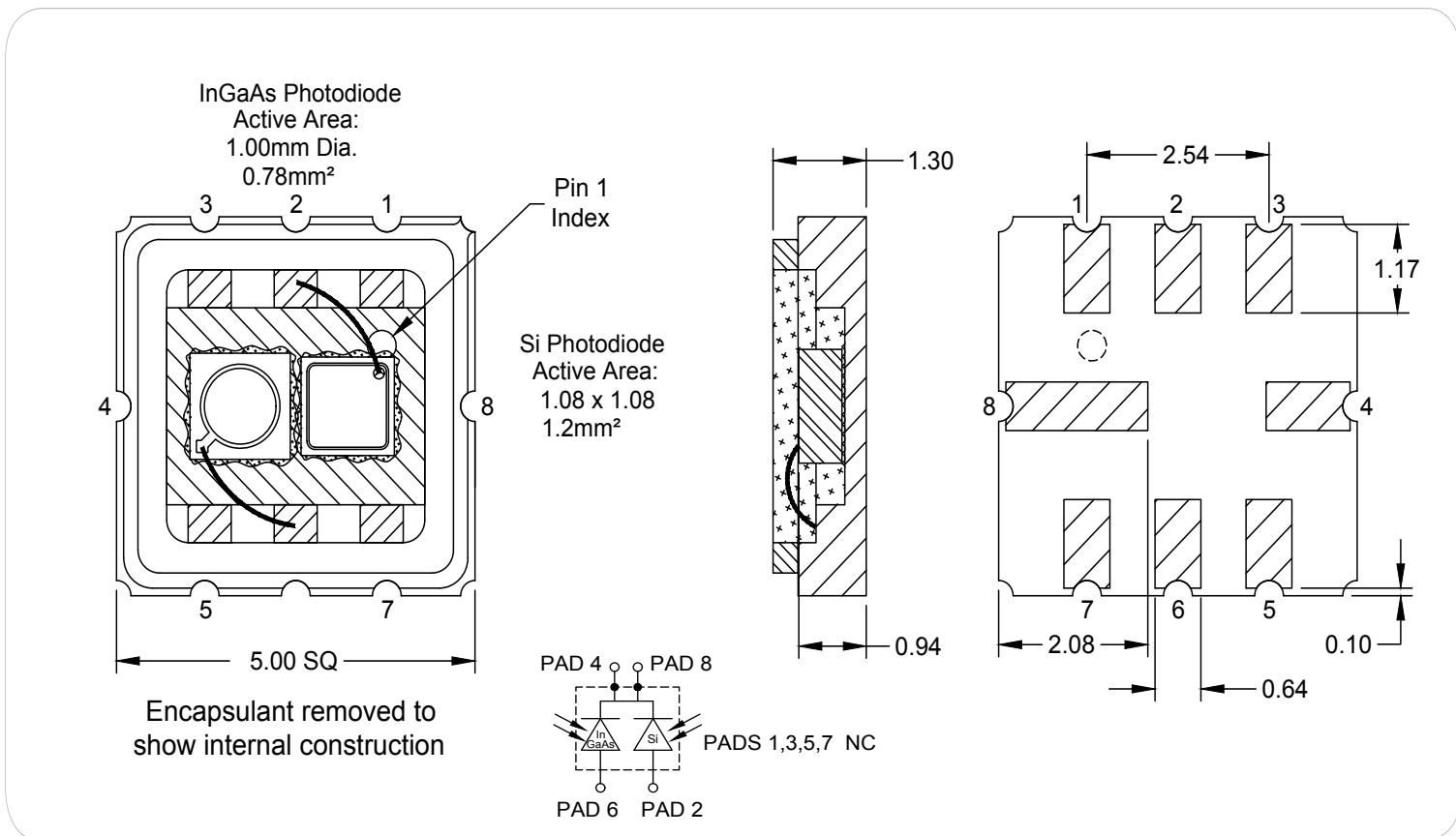
Electrical & Optical Characteristics (1.2mm Silicon-PD) Ta = 23°C

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Dark Current	Id	Vr=5V	--	0.1	1.0	nA
Forward Voltage	Vf	If=2mA	--	--	0.8	V
Breakdown Voltage	Vb	Ir=10uA	3.0	--	--	V
Spectral Sensitivity Range	λ	--	250	--	1100	nm
Peak Sensitivity Wavelength	λ_p	--	--	950	--	nm
Responsivity	Rt	Vr=0V, $\lambda=400$ nm	0.20	0.28	--	A/W
Responsivity	Rt	Vr=0V, $\lambda=633$ nm	--	0.40	--	A/W
Rise Time @ 365nm	Vf	Vr=0V, RI=1k Ω	--	100	--	ns
Junction Capacitance	Cj	at 1MHz, Vr=0V	--	20	--	pF
Junction Capacitance	Cj	at 1MHz, Vr=5V	--	6	8	pF
Shunt Resistance	Rsh	Vr=10mV	1000	2000	--	m Ω

Electrical & Optical Characteristics (1.0mm InGaAs-PD) Ta = 25°C

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Dark Current	I_d	$V_r=2V$	--	--	2000	nA
Forward Voltage	V_f	$I_f=10mA$	--	0.6	--	V
Breakdown Voltage	V_b	$I_r=10\mu A$	5	--	--	V
Spectral Sensitivity Range	λ	--	600	--	1750	nm
Peak Sensitivity Wavelength	λ_p	--	--	1590	--	nm
Responsivity	R_t	$V_r=0V, \lambda=950nm$	--	0.4	--	A/W
Responsivity	R_t	$V_r=0V, \lambda=1550nm$	--	0.7	--	A/W
Junction Capacitance	C_j	$V_r=0V$	--	60	--	pF
Rise Time @ 950nm	V_f	$V_r=0V, R_l=1k\Omega$	--	1.0	--	ns

Package Dimensions



Responsivity

