

FEATURES

- Ideal for Electron Detection
- Circular Active Area

Electro-Optical Characteristics at 25°C (Per Element)

Parameters	Test Conditions	Min	Typ	Max	Units
Active Area (per element)			36.5		mm ²
Responsivity	(see graphs on next page)	0.07	0.08	0.09	A/W
Shunt Resistance, R _{SH}	V _R = ± 10 mV	10			MOhm
Reverse Breakdown Voltage, V _R	I _R = 1 μA	5			Volts
Capacitance, C	V _R = 0 V		2	6	nF
Rise Time	V _R = 2 V, R _L = 50 Ω			2	usec

Thermal Parameters

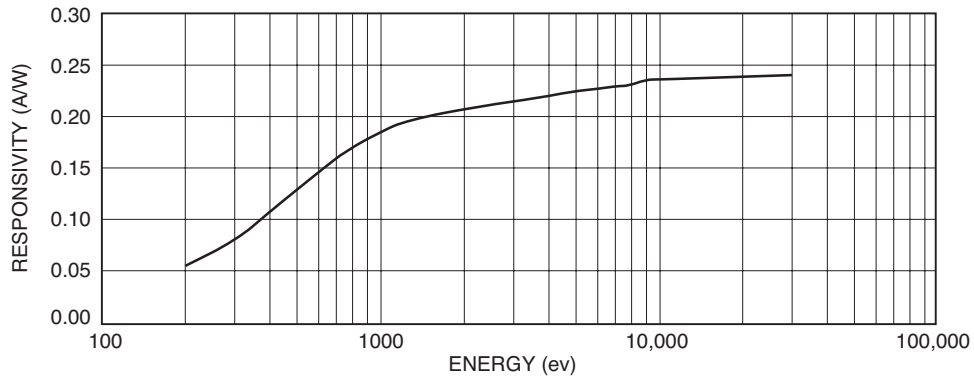
Storage and Operating Temperature Range	Units
Ambient ¹	-10°C to 40°C
Nitrogen or Vacuum	-20°C to 80°C
Lead Soldering Temperature ²	260°C

¹ Temperatures exceeding these parameters may create oxide growth on the active area. Over time responsivity to low energy radiation and wavelengths below 150 nm will be compromised.

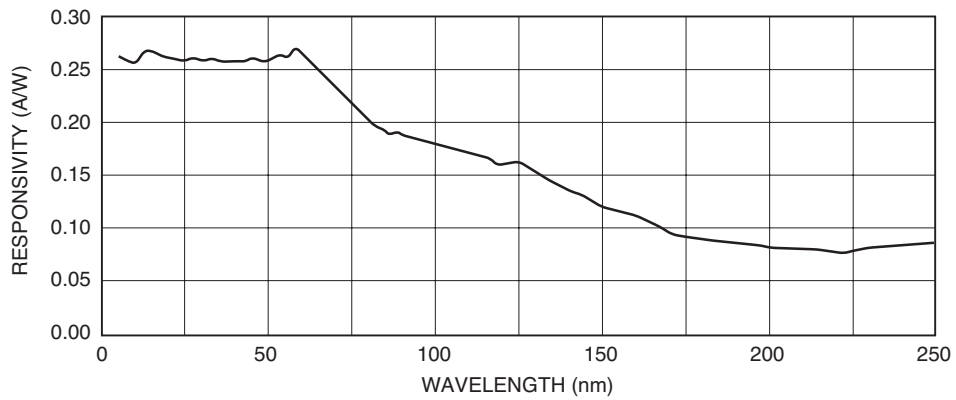
² 0.080" from case for 10 seconds.

Shipped with temporary cover to protect photodiode and wire bond.
 Review Opto Diode, "Handling Precautions for IRD Detectors", prior to removing cover.

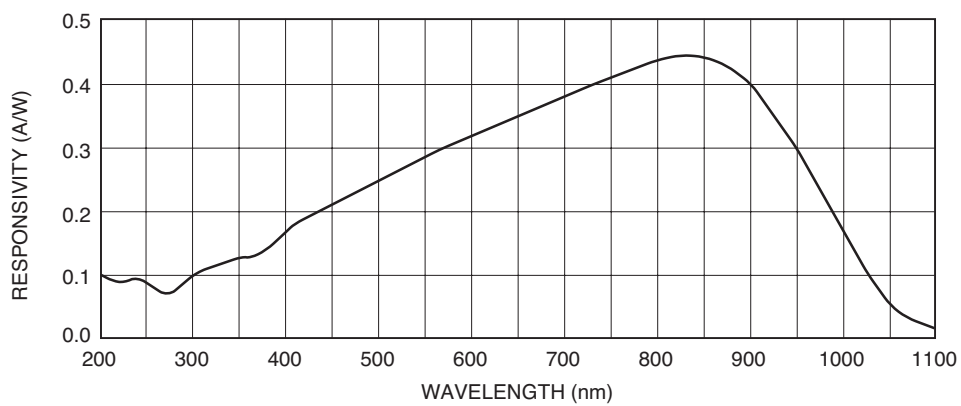
Typical Electron Response



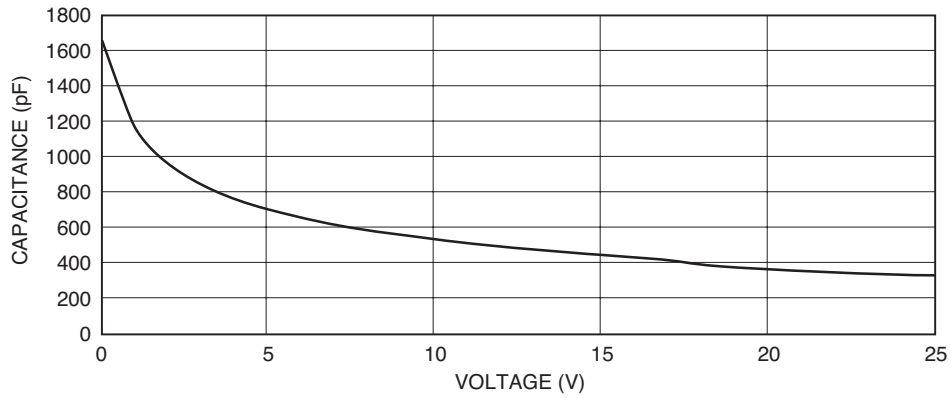
Typical EUV-UV Photon Response



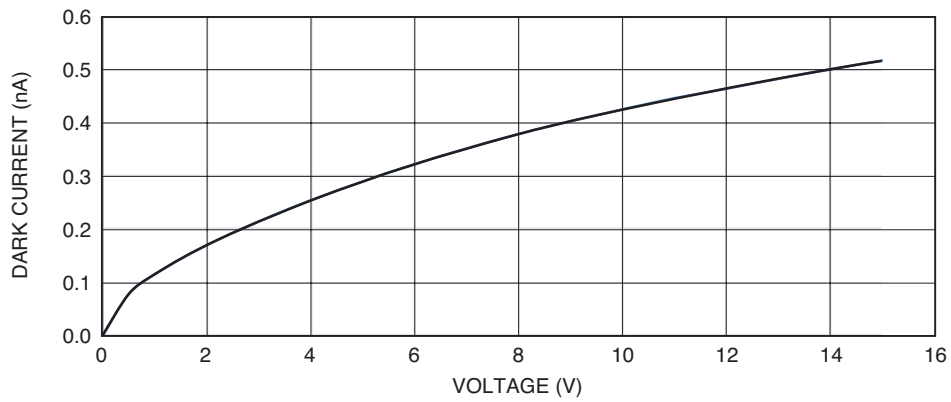
Typical UV-VIS-NIR Photon Responsivity



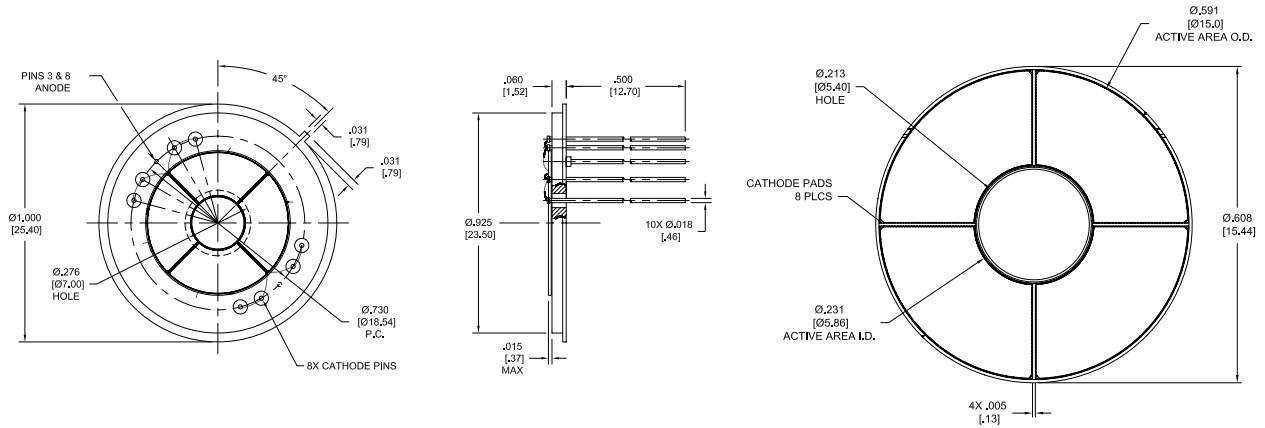
Capacitance vs. Voltage



Dark Current vs. Voltage

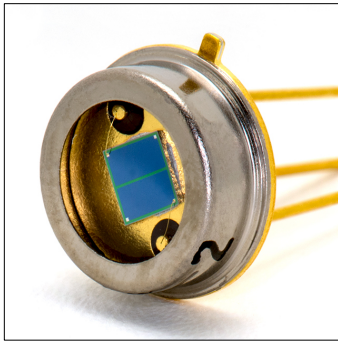


Package Information



Dimensions are in inch [metric] units.

Specifications are subject to change without prior notice.



FEATURES

- Red Enhanced
- Low Noise
- High Response
- High Shunt Resistance
- Low Profile TO-5 Package

Electro-Optical Characteristics at 25°C

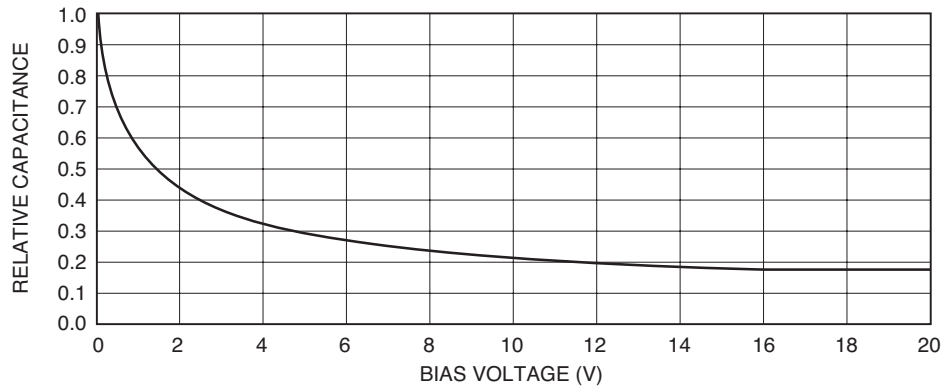
Characteristic	Test Conditions	Min	Typ	Max	Units
Dark Current, I _D	V _R = 5 V		0.9	5	na
Shunt Resistance, R _{SH}	V _R = 10 mV		300		MΩ
Junction Capacitance, C _J	V _R = 0 V, f = 1 MHz		30		pF
Junction Capacitance, C _J	V _R = 10 V, f = 1 MHz		7.5		pF
Spectral Application Range, λ _{range}	Spot Scan	250		1100	nm
Responsivity, R	λ = 633 nm, V _R = 0 V	0.32	0.36		A/W
Responsivity, R	λ = 900 nm, V _R = 0 V	0.5	0.6		A/W
Breakdown Voltage, V _R	I _R = 10 μA	25	60		V
Noise Equivalent Power, NEP	V _R = 0 V, λ = 950 nm		2.5 x 10 ⁻¹⁴		W/√HZ
Response Time, t _r ¹	RL = 50 Ω, V _R = 0 V		190		nsec
Response Time, t _r ¹	RL = 50 Ω, V _R = 10 V		8		nsec

¹ Response time of 10% to 90% is specified at 660 nm.

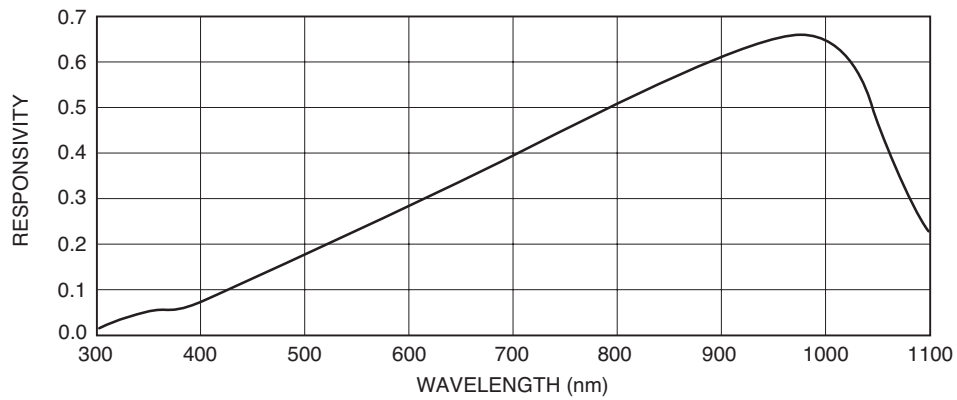
Absolute Maximum Ratings at 25°C

Parameter	Min	Max	Units
Reverse Voltage, V _R		100	V
Storage Temperature, T _{STG}	-55	+150	°C
Operating Temperature, T _O	-40	+125	°C
Lead Soldering Temperature (1/16" from case for 3 sec)		+260	°C

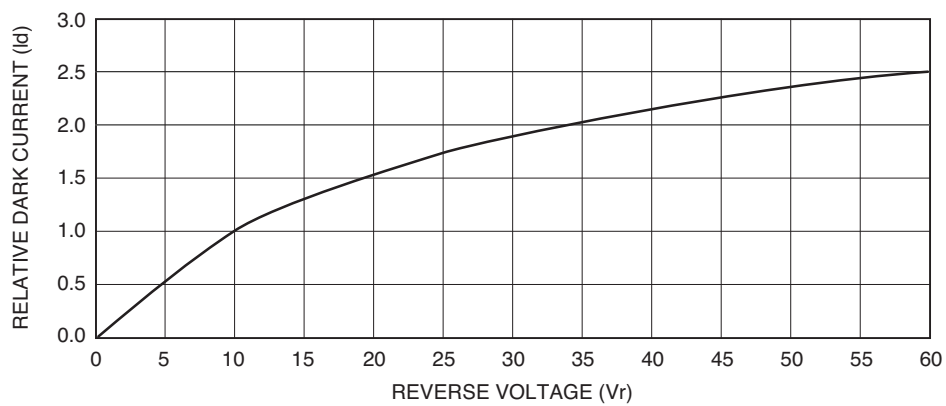
Capacitance vs Bias Voltage



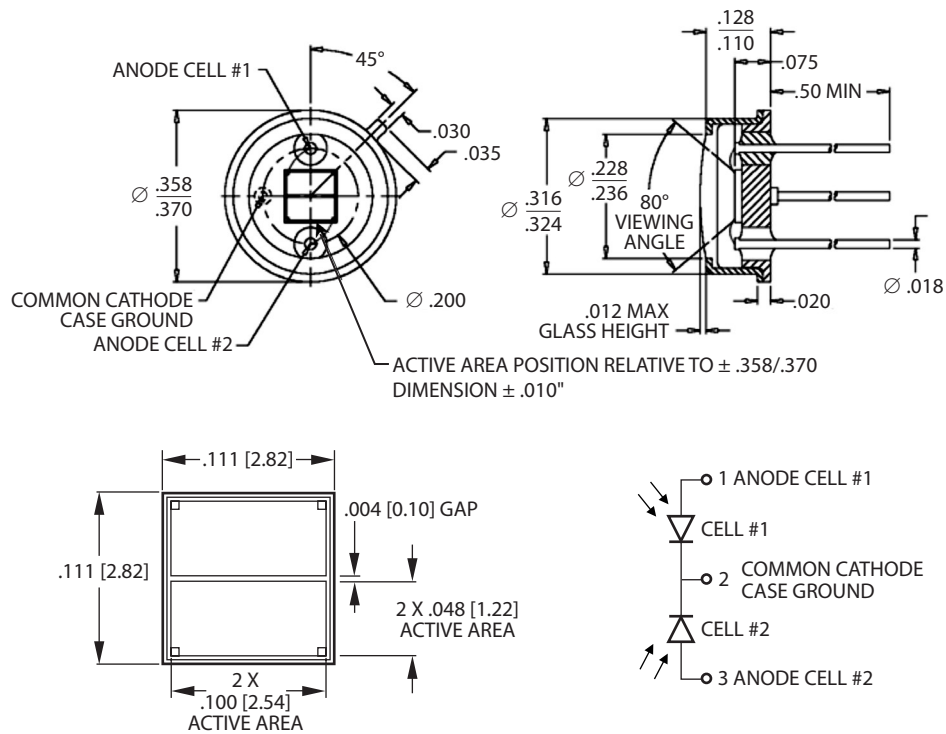
Typical Spectral Response



Dark Current vs Voltage



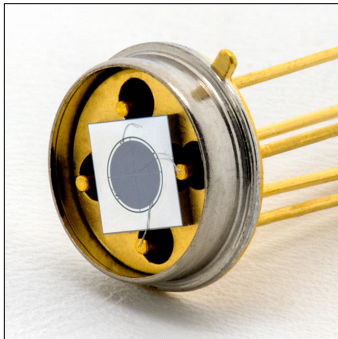
Package Information



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FEATURES

- TO-5, 5 Pin Package
- Windowless Package

Electro-Optical Characteristics at 25°C (Per Element)

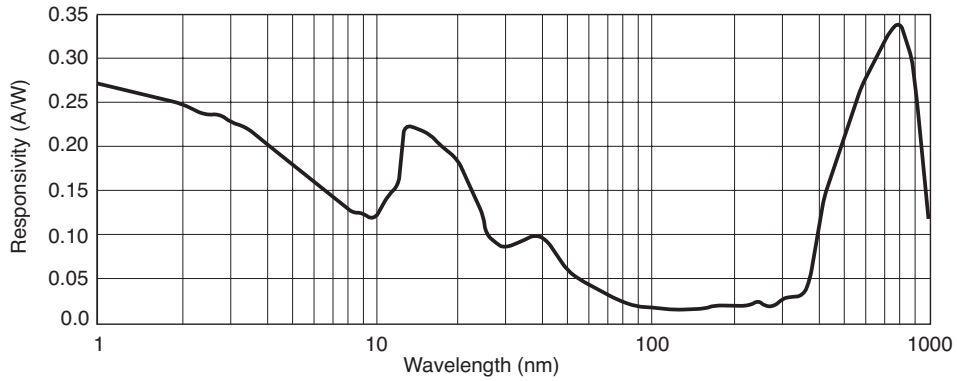
Parameters	Test Conditions	Min	Typ	Max	Units
Active Area	Per Quadrant		1.25		mm ²
Responsivity	@ 254 nm		0.02		A/W
Dark Current, I _{dr}	V _R = ± 18 V		1	100	nA
Reverse Breakdown Voltage, V _R	I _R = 1 μA	20			Volts
Capacitance, C	V _R = 0 V		100	300	pF
Response Time, t _r	V _R = 0 V		1		μsec
Shunt Resistance	V _f = ± 10 mV	100			MOhms

Thermal Parameters

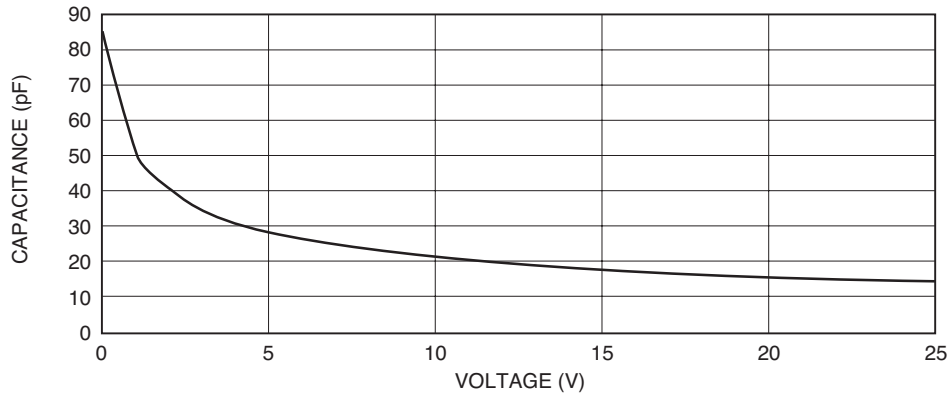
Storage and Operating Temperature Range	Units
Ambient	-10°C to 40°C
Nitrogen or Vacuum	-20°C to 80°C
Lead Soldering Temperature ¹	260°C

¹ 0.08" from case for 10 seconds.

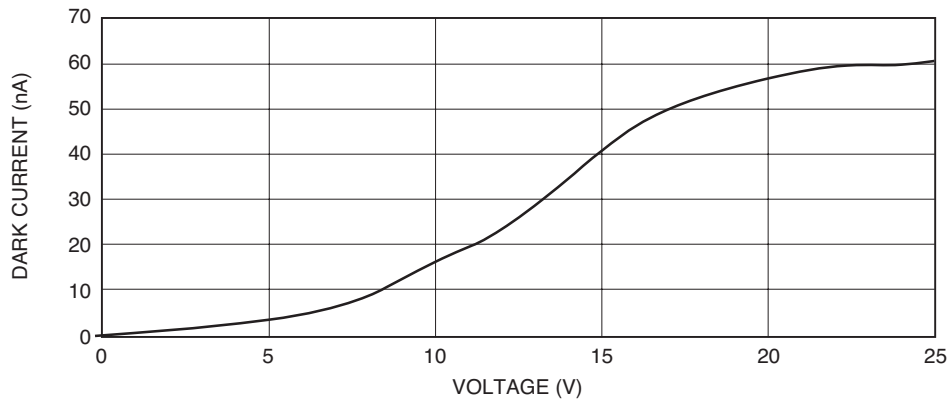
Typical Photon Responsivity



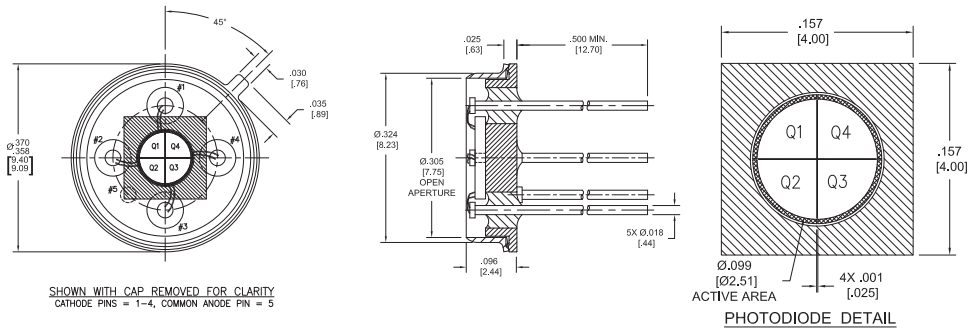
Capacitance vs. Voltage



Dark Current vs. Voltage



Package Information



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FEATURES

- Circular Active Area (4 Quadrants)
- TO-5, 5 Pin Package

Electro-Optical Characteristics at 25°C (Per Element)

Parameters	Test Conditions	Min	Typ	Max	Units
Active Area	R.049 [1.25 mm]		1.25		mm ²
Responsivity	(see graph on next page)				
Shunt Resistance, Rsh	@ ± 10 mV	100			MOhms
Reverse Breakdown Voltage, V _R	I _R = 1 μA	20			Volts
Capacitance, C	V _R = 0 V			500	pF
Response Time, tr	RL = 500 Ω, V _R = 0 V		1		μsec

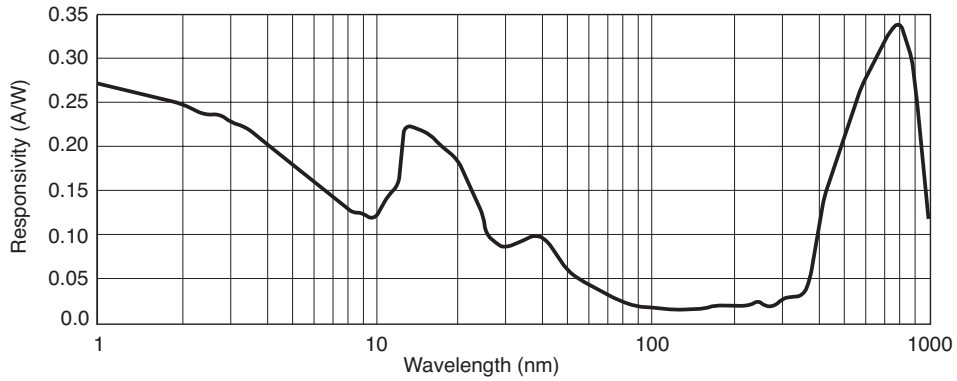
Thermal Parameters

Storage and Operating Temperature Range	Units
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Lead Soldering Temperature ¹	260°C

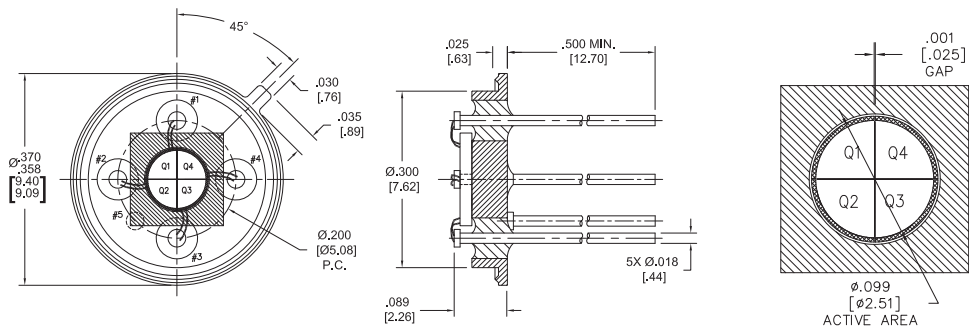
¹ 0.08" from case for 10 seconds.

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Typical Photon Responsivity



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