Pyrometer Photodiode

InGaAs over InGaAs



APPLICATIONS

- Pyrometry

AVAILABLE OPTIONS

- Custom Lenses, Filters, and Anti-Reflective Coatings
- Fiber-Optic Packaging
- Integrated Electronics:
  - Thermo-Electric Cooler
  - Transimpedance Amplifier

Specifications

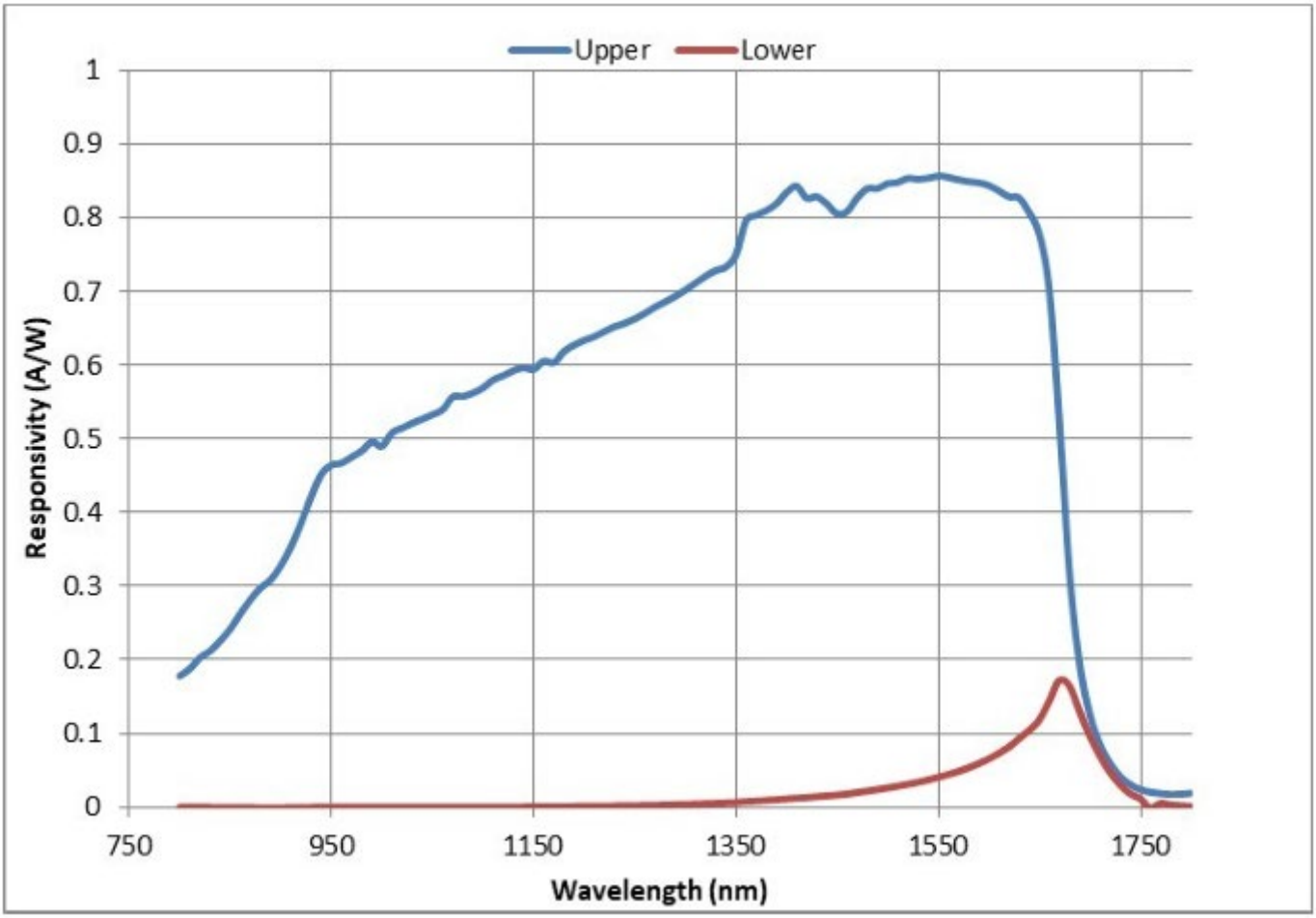
Pyrometer Photodiodes			
Part Number	**2C-100N17-100N17-XX**	**2C-200N17-200N17-XX**	**Units**
Optoelectronic Characteristics @ 23 ºC ± 2 ºC			
Active Diameter	1	2	mm
Spectral Response Range[1]	800-1700	800-1700	nm
Responsivity @ 850 nm (min/typ)	0.2/0.35	0.2/0.35	A/W
Responsivity @ 1300 nm (min/typ)	0.85/1.0	0.85/1.0	A/W
Responsivity @ 1550 nm (min/typ)	0.93/1.1	0.93/1.1	A/W
R_{SHUNT} @ 10mV (min/typ)	5/30	5/30	MΩ
I_{DARK} @ 2V (typ/max)	3/10	3/10	nA
Capacitance @ 0V (max)	250	800	pF
Capacitance @ 3V (max)	110	300	pF
Linearity (min/typ)	6/8	6/8	dBm
Storage Temperature	-40 to 125	-40 to 125	ºC
Operating Temperature	-40 to 85	-40 to 85	ºC
Maximum Ratings @ 23 °C ± 2 °C			
Reverse Current	10	10	mA
Forward Current	10	10	mA

[1] Available 1.9, 2.1, and 2.2µm cutoff wavelengths

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InGaAs/InGaAs 1.7µm Cutoff Responsivity vs. Wavelength



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GPD OPTOELECTRONICS

Pyrometer Photodiode

InGaAs over InGaAs

PACKAGING CAPABILITIES

Type	Package	Top Chip	Bottom Chip	Window
InGaAs over InGaAs	TO-39	1mm dia.	1mm dia.	Uncoated molded glass
InGaAs over InGaAs	TO-39	2mm dia.	2mm dia.	Uncoated molded glass

GPD QUALIFICATIONS

Our compliance, certificates, and capabilities

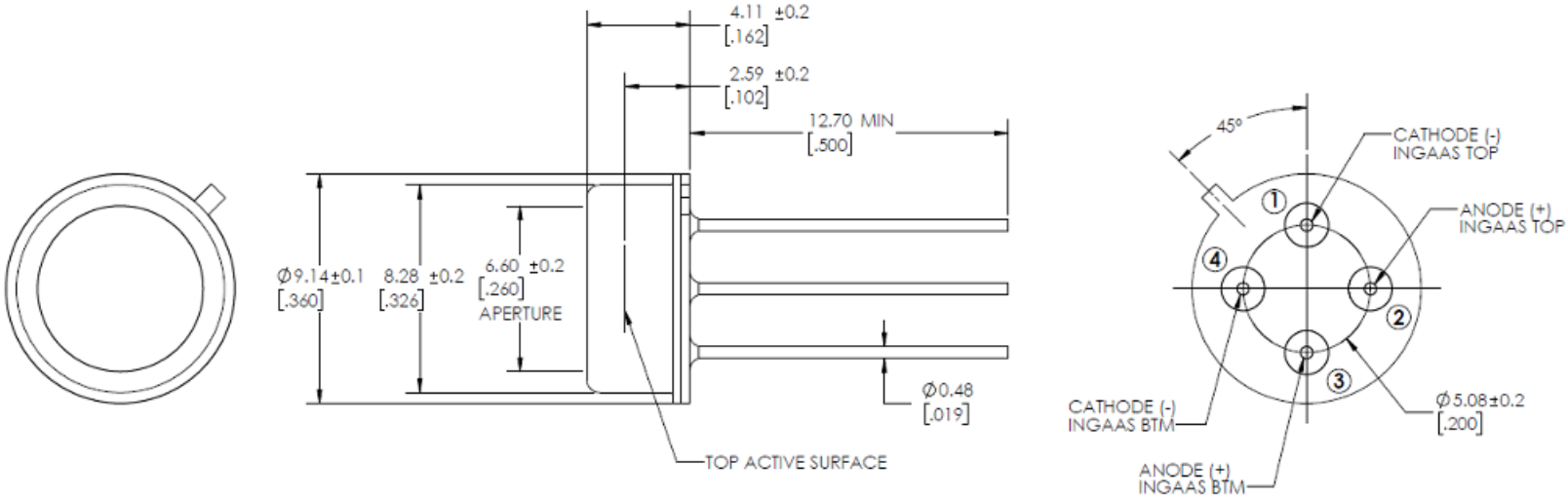
- ✓ **ISO 9001:2005**
- ✓ **Quality Assurance Provisions**
- ✓ **DDTC/ITAR registered**
- ✓ **MIL-STD-883**
- ✓ **MIL-STD-750**
- ✓ **Space-qualified designs**
- ✓ **High-reliable assembly and environmental/ radiation test**
- ✓ **Manufactured in Salem, NH**

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Packaging Outline

TO-39 InGaAs/InGaAs



DIMENSIONS IN MM [INCH]

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ORDERING INFORMATION

GPD is proud to offer multiple packaging solutions to best fit the needs of your application. Our Standard configurations are mentioned below, and custom packaging is also available.

Selection is based on the size of the photodiode and the package requirements of your application. Refer to packaging capabilities chart below for more information.

InGaAs over InGaAs

2C-200N17-200N17-T39

Two-Color

InGaAs Top Chip	
200N17	2mm dia. 1.7µm InGaAs
200N19	2mm dia. 1.9µm InGaAs
200N21	2mm dia. 2.1µm InGaAs
200N22	2mm dia. 2.2µm InGaAs
200N26	2mm dia. 2.6µm InGaAs

InGaAs Bottom Chip	
200N17	2mm dia. 1.7µm InGaAs
200N19	2mm dia. 1.9µm InGaAs
200N21	2mm dia. 2.1µm InGaAs
200N22	2mm dia. 2.2µm InGaAs
200N26	2mm dia. 2.6µm InGaAs

Package*	
T39	TO-39
*More packages available upon request	

NOTE: GPD Optoelectronics may update product details without prior notice, and any use or application of our products is at your own discretion.

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Handling and Processing Precautions

Electrostatic Discharge (ESD) Warning

Our detectors are highly susceptible to damage from electrostatic discharge (ESD). To prevent damage, use ESD protective measures, such as grounding straps, when unpacking and handling these devices.

To guarantee the optimal performance of a photodiode, it is crucial to adhere strictly to the device's electrical specifications. Photodiodes are highly sensitive to values that surpass their absolute maximum ratings. Exceeding these limits can lead to damage or total failure of the device. Users should employ handling techniques that avoid electrostatic discharges and other electrical surges during both the handling and operation of these devices.

Cleanroom Packaging and Handling

Our detectors are packaged in a clean state under cleanroom conditions, eliminating the need for cleaning before processing. In fact, cleaning is not recommended as it may introduce contaminants.

Processing Guidelines

To maintain the cleanliness of our detectors:

- Process under the cleanest conditions possible, including clean workplaces and room air.
- Wear suitable gloves or fingerstalls to prevent fingerprint contamination (mainly fats and organic acids).
- Ensure the soldering process is designed to prevent the need for post-soldering cleaning.

Cleaning Optical Windows (if necessary)

If exceptional circumstances require cleaning the optical windows:

- First, identify the type of contamination.
- For loose particles, gently blow them off with nitrogen gas or clean, dry air.
- For attached particles or other contaminating materials, clean with solvents such as isopropyl alcohol, or First Contact™ Polymer

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