



CAUTION!

- To avoid heat damage to the detector, use a heat sink (such as a pair of tweezers) on the pin when soldering TO-style packages.
- Avoid touching the package window. Clean gently with a cotton swab and ethyl alcohol if needed.
- Detectors mounted on ceramics or without windows require extra caution in handling. The exposed gold bond wires are extremely fragile.
- Do not use a standard ohmmeter to measure the diode. Large forward currents may destroy the detector.
- Do not exceed maximum reverse bias voltage listed in the specification table.
- Make all circuit connections before applying power. Turn off power before disconnecting the detector.

General

The J22 and J23 series are high performance InGaAs detectors operating over the spectral range from 0.8 μ m to 2.6 μ m. These detectors provide fast rise time, uniformity of response, excellent sensitivity, and long term reliability for a wide range of applications. For enhanced performance or temperature stability of response near the cutoff wavelength, Teledyne Judson offers a variety of thermoelectrically cooled detector options.

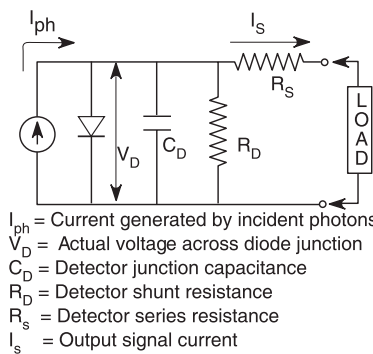


The equivalent circuit for an InGaAs photodiode (Fig. 1) is a photon-generated current source with shunt resistance R_D , parallel capacitance C_D and series resistance R_S . The value R_S is very small compared to R_D and can be disregarded except at high power levels (more than 10mW).

Applications

- Gas analysis
- NIR-FTIR
- Raman spectroscopy
- IR fluorescence
- Blood analysis
- Optical sorting
- Radiometry
- Chemical detection
- Optical communication
- Optical power monitoring
- Laser diode monitoring
- Laser burn-in

Figure 1.
InGaAs Photodiode Equivalent Circuit



Responsivity

An InGaAs photodiode generates a current across the p-i-n junction when photons of sufficient energy are absorbed within the active region. The responsivity (Amps/Watt) is a function of wavelength and detector temperature. Figure 3 shows the typical response for the J22 and J23 series at room temperature operation.

J22 and J23 SERIES InGaAs PHOTODIODES

Operating Instructions

Operating Circuits

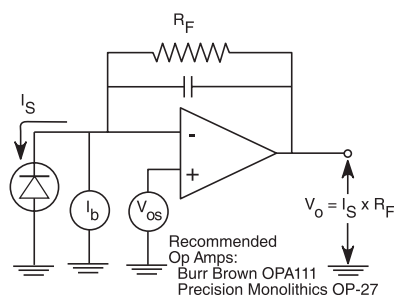
The recommended circuit for most applications is an op-amp in a negative-feedback transimpedance configuration (Fig. 2). The feedback circuit converts the detector output current to a voltage, while the op-amp maintains the detector near zero-volt bias for lowest noise.

An undesirable DC offset current, or "dark current", will be produced in this configuration. It is a function of the preamp input bias current I_b , the preamp input offset voltage V_{os} , and the detector shunt resistance R_D . This total "dark current" is:

$$\text{Total } I_D = I_b + (V_{os} / R_D)$$

Selection of the proper op-amp is important for low preamp noise and best system bandwidth. For higher R_D detectors, choose a preamp with low bias current; for lower R_D detectors, choose a preamp with low offset voltage.

Figure 2.
Basic Operating Circuit



Testing

J22 and J23 Series room temperature InGaAs detectors are designed for operation under ambient conditions to +60°C.

Each device is tested for:

- Minimum responsivity at 1550nm
- Minimum shunt impedance R_D
- Maximum dark current I_D

Statistical data can be provided. Absolute response vs. wavelength from 800 to 1800 nm is available for detectors 2mm or larger.

Device Options

Teledyne Judson's standard InGaAs detectors, the J22 series, offers high reliability and performance in the spectral range from 0.8 μm to 1.7 μm . In addition, the J23 series extended InGaAs detectors are available in four cutoff options at 1.9 μm , 2.2 μm , 2.4 μm and 2.6 μm . Figure 3 shows the typical response for the J22 and J23 series at room temperature operation.

Package Options

The J22 and J23 series are available in standard TO packages, TE cooled, LN2 cooled, ceramic submounts, and bare die. We also offer different window materials, lenses or optical filter options.

Accessories

For a complete system, Teledyne Judson offers low noise transimpedance amplifier modules, heat sink/preamp assemblies and temperature controllers. For further details, please visit our website.

Call us

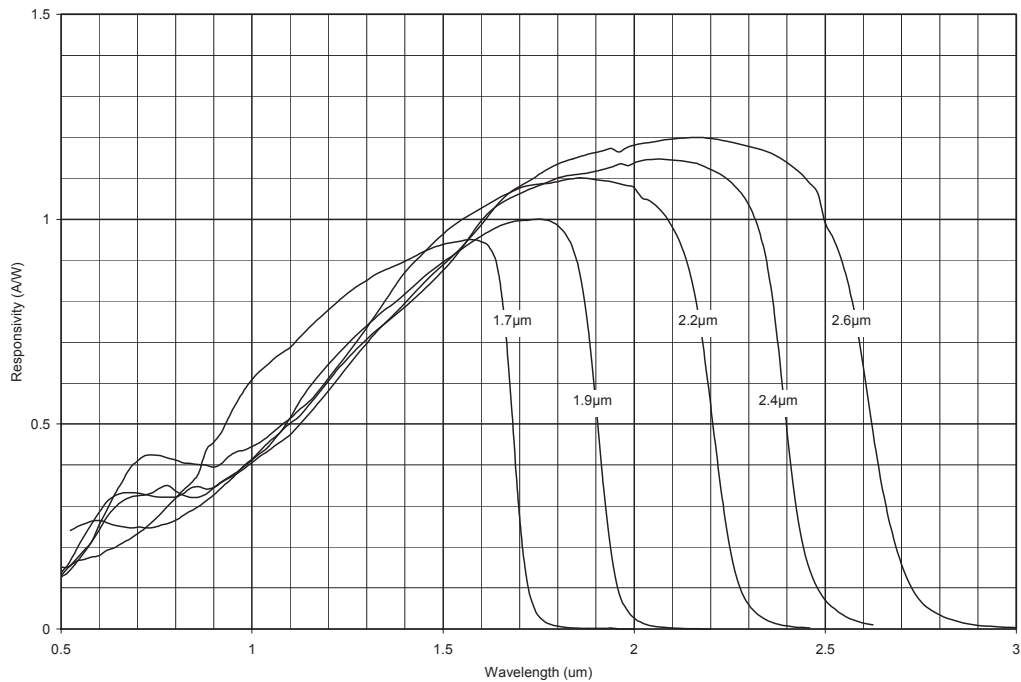
Let our team of application engineers assist you in selecting the best detector design for your application. Or visit our website for additional information on all of Teledyne Judson's products.

Typical Specification @ 22°C

Detector Model Number	Active Size Diameter (mm)	50% Cutoff Wavelength* (μm)	Peak Wavelength* (μm)	Peak Responsivity (A/W) min	Shunt Impedance (Ohm) typ		Dark Current (A) @ Vr (max) typ max		Peak D* (cmHz ^{1/2} /W) @ 1KHz min typ		NEP (W/rt-Hz) @ Peak Wavelength max typ	
					min	typ	typ	max	min	typ	max	typ
J22-18I-R40U	0.040	1.7+/-0.1	1.65+/-0.10	0.90	4.0E+08	1.5E+09	3.0E-11	3.0E-10	5.0E+11	1.0E+12	7.1E-15	3.5E-15
J22-18I-R75U	0.075				2.5E+08	1.0E+09	4.0E-11	4.0E-10	7.4E+11	1.5E+12	9.0E-15	4.5E-15
J22-18I-R250U	0.250				1.5E+08	6.0E+08	1.0E-10	1.0E-09	1.9E+12	3.8E+12	1.2E-14	5.8E-15
J22-18I-R500U	0.500				5.0E+07	2.0E+08	2.5E-10	2.5E-09	2.2E+12	4.4E+12	2.0E-14	1.0E-14
J22-18I-R01M	1.000				1.5E+07	6.0E+07	1.0E-09	1.0E-08	2.4E+12	4.8E+12	3.7E-14	1.8E-14
J22-5I-R02M	2.000				4.0E+06	1.6E+07	4.0E-09	4.0E-08	2.5E+12	5.0E+12	7.1E-14	3.5E-14
J23-18I-R250U-1.9	0.25	1.9+/-0.1	1.75+/-0.10	1.00	8.0E+06	1.6E+07	1.0E-08	1.0E-07	4.9E+11	6.9E+11	4.5E-14	3.2E-14
J23-18I-R500U-1.9	0.50				2.6E+06	5.2E+06	3.0E-08	3.0E-07	5.6E+11	7.9E+11	7.9E-14	5.6E-14
J23-18I-R01M-1.9	1.00				8.0E+05	1.6E+06	1.0E-07	1.0E-06	6.2E+11	8.8E+11	1.4E-13	1.0E-13
J23-5I-R02M-1.9	2.00				1.5E+05	3.0E+05	4.0E-07	4.0E-06	5.4E+11	7.6E+11	3.3E-13	2.3E-13
J23-5I-R03M-1.9	3.00				4.5E+04	9.0E+04	1.0E-06	1.0E-05	4.4E+11	6.3E+11	6.0E-13	4.3E-13
J23-18I-R250U-2.2	0.25	2.2+/-0.1	1.90+/-0.10	1.10	5.0E+05	1.0E+06	1.0E-07	1.0E-06	1.4E+11	1.9E+11	1.6E-13	1.2E-13
J23-18I-R500U-2.2	0.50				1.7E+05	3.4E+05	3.0E-07	3.0E-06	1.6E+11	2.2E+11	2.8E-13	2.0E-13
J23-18I-R01M-2.2	1.00				5.0E+04	1.0E+05	1.0E-06	1.0E-05	1.7E+11	2.4E+11	5.2E-13	3.7E-13
J23-5I-R02M-2.2	2.00				1.0E+04	2.0E+04	4.0E-06	4.0E-05	1.5E+11	2.2E+11	1.2E-12	8.2E-13
J23-5I-R03M-2.2	3.00				3.0E+03	6.0E+03	1.0E-05	1.0E-04	1.3E+11	1.8E+11	2.1E-12	1.5E-12
J23-18I-R250U-2.4	0.25	2.4+/-0.1	2.15+/-0.10	1.15	1.0E+05	2.0E+05	3.5E-07	3.5E-06	6.3E+10	8.9E+10	3.5E-13	2.5E-13
J23-18I-R500U-2.4	0.50			1.15	3.3E+04	6.6E+04	1.0E-06	1.0E-05	7.3E+10	1.0E+11	6.1E-13	4.3E-13
J23-18I-R01M-2.4	1.00			1.15	1.0E+04	2.0E+04	3.5E-06	3.5E-05	8.0E+10	1.1E+11	1.1E-12	7.8E-13
J23-5I-R02M-2.4	2.00			1.15	2.0E+03	4.0E+03	1.5E-05	1.5E-04	7.1E+10	1.0E+11	2.5E-12	1.8E-12
J23-5I-R03M-2.4	3.00			1.10	6.5E+02	1.3E+03	3.5E-05	3.5E-04	5.8E+10	8.3E+10	4.6E-12	3.2E-12
J23-18I-R250U-2.6	0.25	2.6+/-0.1	2.25+/-0.10	1.20	2.5E+04	5.0E+04	1.0E-06	1.0E-05	3.3E+10	4.7E+10	6.7E-13	4.8E-13
J23-18I-R500U-2.6	0.50			1.20	8.0E+03	1.6E+04	3.0E-06	3.0E-05	3.7E+10	5.3E+10	1.2E-12	8.4E-13
J23-18I-R01M-2.6	1.00			1.20	2.5E+03	5.0E+03	1.0E-05	1.0E-04	4.2E+10	5.9E+10	2.1E-12	1.5E-12
J23-5I-R02M-2.6	2.00			1.20	5.0E+02	1.0E+03	4.0E-05	4.0E-04	3.7E+10	5.3E+10	4.8E-12	3.4E-12
J23-5I-R03M-2.6	3.00			1.10	1.6E+02	3.2E+02	1.0E-04	1.0E-03	2.9E+10	4.1E+10	9.2E-12	6.5E-12

* Tighter tolerance for cutoff and peak wavelengths may be available upon customer request.
 All specifications are for detector operation at 0V bias and 22C unless otherwise specified.

Figure 3. Responsivity vs. Wavelength for InGaAs @ 22°C



J22 and J23 SERIES InGaAs PHOTODIODES

Operating Instructions

1.9µm Cutoff Thermoelectrically Cooled Extended InGaAs Detectors

Detector Model Number	Active Size Diameter (mm)	Operating Temp. (°C)	50% Cutoff Wavelength* (µm)	Peak Responsivity (A/W) min	Shunt Impedance (Ohm)		Peak D* (cmHz ^{1/2} /W) @ 1KHz		NEP (W/rt-Hz) @ peak wavelength		Capacitance (pF) @ 0V typ
					min	typ	min	typ	max	typ	
J23TE1-66C-R250U-1.9	0.25	-20	1.85+/-0.10	1.0	2.8E+08	5.6E+08	3.1E+12	4.4E+12	7.1E-15	5.0E-15	75
J23TE1-66C-R500U-1.9	0.50				1.0E+08	2.0E+08	3.7E+12	5.3E+12	1.2E-14	8.4E-15	250
J23TE1-66C-R01M-1.9	1.00				3.0E+07	6.0E+07	4.1E+12	5.8E+12	2.2E-14	1.5E-14	1000
J23TE1-66C-R02M-1.9	2.00				5.5E+06	1.1E+07	3.5E+12	5.0E+12	5.0E-14	3.6E-14	4000
J23TE1-66C-R03M-1.9	3.00				1.5E+06	3.0E+06	2.8E+12	3.9E+12	9.6E-14	6.8E-14	9000
J23TE2-66C-R250U-1.9	0.25	-40	1.83+/-0.10	1.0	1.4E+09	2.8E+09	7.3E+12	1.0E+13	3.0E-15	2.1E-15	75
J23TE2-66C-R500U-1.9	0.50				5.2E+08	1.0E+09	8.9E+12	1.3E+13	5.0E-15	3.5E-15	250
J23TE2-66C-R01M-1.9	1.00				1.6E+08	3.2E+08	9.9E+12	1.4E+13	9.0E-15	6.3E-15	1000
J23TE2-66C-R02M-1.9	2.00				2.6E+07	5.2E+07	8.0E+12	1.1E+13	2.2E-14	1.6E-14	4000
J23TE2-66C-R03M-1.9	3.00				7.5E+06	1.5E+07	6.4E+12	9.1E+12	4.1E-14	2.9E-14	9000
J23TE3-66C-R250U-1.9	0.25	-65	1.82+/-0.10	1.0	8.0E+09	1.6E+10	1.8E+13	2.6E+13	1.2E-15	8.5E-16	75
J23TE3-66C-R500U-1.9	0.50				3.5E+09	7.0E+09	2.4E+13	3.5E+13	1.8E-15	1.3E-15	250
J23TE3-66C-R01M-1.9	1.00				1.2E+09	2.4E+09	2.9E+13	4.1E+13	3.1E-15	2.2E-15	1000
J23TE3-66C-R02M-1.9	2.00				1.7E+08	3.4E+08	2.2E+13	3.1E+13	8.2E-15	5.8E-15	4000
J23TE3-66C-R03M-1.9	3.00				4.0E+07	8.0E+07	1.6E+13	2.2E+13	1.7E-14	1.2E-14	9000
J23TE4-3CN-R250U-1.9	0.25	-85	1.81+/-0.10	1.0	3.2E+10	6.4E+10	3.9E+13	5.5E+13	5.7E-16	4.0E-16	75
J23TE4-3CN-R500U-1.9	0.50				1.6E+10	3.2E+10	5.5E+13	7.8E+13	8.1E-16	5.7E-16	250
J23TE4-3CN-R01M-1.9	1.00				6.0E+09	1.2E+10	6.7E+13	9.5E+13	1.3E-15	9.3E-16	1000
J23TE4-3CN-R02M-1.9	2.00				7.0E+08	1.4E+09	4.6E+13	6.5E+13	3.9E-15	2.7E-15	4000
J23TE4-3CN-R03M-1.9	3.00				1.5E+08	3.0E+08	3.2E+13	4.5E+13	8.3E-15	5.9E-15	9000

* Tighter tolerance for cutoff and peak wavelengths may be available upon customer request.
All specifications are for detector operation at 0V bias and 22C unless otherwise specified.

2.2µm Cutoff Thermoelectrically Cooled Extended InGaAs Detectors

Detector Model Number	Active Size Diameter (mm)	Operating Temp. (°C)	50% Cutoff Wavelength* (µm)	Peak Responsivity (A/W) min	Shunt Impedance (Ohm)		Peak D* (cmHz ^{1/2} /W) @ 1KHz		NEP (W/rt-Hz) @ peak wavelength		Capacitance (pF) @ 0V typ
					min	typ	min	typ	max	typ	
J23TE1-66C-R250U-2.2	0.25	-20	2.14+/-0.10	1.1	1.1E+07	2.2E+07	6.8E+11	9.7E+11	3.2E-14	2.3E-14	75
J23TE1-66C-R500U-2.2	0.50				4.0E+06	8.0E+06	8.2E+11	1.2E+12	5.4E-14	3.8E-14	250
J23TE1-66C-R01M-2.2	1.00				1.2E+06	2.4E+06	9.0E+11	1.3E+12	9.8E-14	6.9E-14	1000
J23TE1-66C-R02M-2.2	2.00				2.2E+05	4.4E+05	7.7E+11	1.1E+12	2.3E-13	1.6E-13	4000
J23TE1-66C-R03M-2.2	3.00				6.2E+04	1.2E+05	6.2E+11	8.7E+11	4.3E-13	3.1E-13	9000
J23TE2-66C-R250U-2.2	0.25	-40	2.11+/-0.10	1.1	4.8E+07	9.6E+07	1.5E+12	2.1E+12	1.5E-14	1.1E-14	75
J23TE2-66C-R500U-2.2	0.50				1.8E+07	3.6E+07	1.8E+12	2.6E+12	2.4E-14	1.7E-14	250
J23TE2-66C-R01M-2.2	1.00				5.5E+06	1.1E+07	2.0E+12	2.9E+12	4.4E-14	3.1E-14	1000
J23TE2-66C-R02M-2.2	2.00				9.5E+05	1.9E+06	1.7E+12	2.4E+12	1.1E-13	7.5E-14	4000
J23TE2-66C-R03M-2.2	3.00				2.6E+05	5.2E+05	1.3E+12	1.9E+12	2.0E-13	1.4E-13	9000
J23TE3-66C-R250U-2.2	0.25	-65	2.09+/-0.10	1.1	2.6E+08	5.2E+08	3.7E+12	5.2E+12	6.0E-15	4.3E-15	75
J23TE3-66C-R500U-2.2	0.50				1.1E+08	2.2E+08	4.8E+12	6.7E+12	9.3E-15	6.6E-15	250
J23TE3-66C-R01M-2.2	1.00				3.5E+07	7.0E+07	5.4E+12	7.6E+12	1.6E-14	1.4E-14	1000
J23TE3-66C-R02M-2.2	2.00				5.5E+06	1.1E+07	4.3E+12	6.0E+12	4.2E-14	2.9E-14	4000
J23TE3-66C-R03M-2.2	3.00				1.3E+06	2.6E+06	3.1E+12	4.4E+12	8.5E-14	6.0E-14	9000
J23TE4-3CN-R250U-2.2	0.25	-85	2.07+/-0.10	1.1	9.5E+08	1.9E+09	7.4E+12	1.0E+13	3.0E-15	2.1E-15	75
J23TE4-3CN-R500U-2.2	0.50				4.5E+08	9.0E+08	1.0E+13	1.4E+13	4.4E-15	3.1E-15	250
J23TE4-3CN-R01M-2.2	1.00				1.5E+08	3.0E+08	1.2E+13	1.7E+13	7.6E-14	5.3E-15	1000
J23TE4-3CN-R02M-2.2	2.00				2.1E+07	4.2E+07	8.8E+12	1.2E+13	2.0E-14	1.4E-14	4000
J23TE4-3CN-R03M-2.2	3.00				4.5E+06	9.0E+06	6.1E+12	8.6E+12	4.4E-14	3.1E-14	9000

* Tighter tolerance for cutoff and peak wavelengths may be available upon customer request.
All specifications are for detector operation at 0V bias and 22C unless otherwise specified.

2.4µm Cutoff Thermoelectrically Cooled Extended InGaAs Detectors

Detector Model Number	Active Size Diameter (mm)	Operating Temp. (°C)	50% Cutoff Wavelength* (µm)	Peak Responsivity (A/W) min	Shunt Impedance (Ohm)		Peak D* (cmHz ^{1/2} /W) @ 1KHz		NEP (W/rt-Hz) @ peak wavelength		Capacitance (pF) @ 0V typ
					min	typ	min	typ	max	typ	
J23TE1-66C-R250U-2.4	0.25	-20	2.34+/-0.10	1.15	2.7E+06	5.4E+06	3.5E+11	5.0E+11	6.3E-14	4.4E-14	75
J23TE1-66C-R500U-2.4	0.50				1.0E+06	2.0E+06	4.3E+11	6.1E+11	1.0E-13	7.3E-14	250
J23TE1-66C-R01M-2.4	1.00				3.0E+05	6.0E+05	4.7E+11	6.7E+11	1.9E-13	1.3E-13	1000
J23TE1-66C-R02M-2.4	2.00				5.0E+04	1.0E+05	3.9E+11	5.5E+11	4.6E-13	3.2E-13	4000
J23TE1-66C-R03M-2.4	3.00				1.5E+04	3.0E+04	3.2E+11	4.5E+11	8.4E-13	5.9E-13	9000
J23TE2-66C-R250U-2.4	0.25	-40	2.31+/-0.10	1.15	1.2E+07	2.4E+07	7.8E+11	1.1E+12	2.8E-14	2.0E-14	75
J23TE2-66C-R500U-2.4	0.50				4.5E+06	9.0E+06	9.5E+11	1.3E+12	4.6E-14	3.3E-14	250
J23TE2-66C-R01M-2.4	1.00				1.5E+06	3.0E+06	1.1E+12	1.6E+12	8.1E-14	5.7E-14	1000
J23TE2-66C-R02M-2.4	2.00				2.3E+05	4.6E+05	8.6E+11	1.2E+12	2.1E-13	1.5E-13	4000
J23TE2-66C-R03M-2.4	3.00				6.3E+04	1.3E+05	6.8E+11	9.6E+11	3.9E-13	2.8E-13	9000
J23TE3-66C-R250U-2.4	0.25	-65	2.29+/-0.10	1.15	4.8E+07	9.6E+07	1.6E+12	2.3E+12	1.3E-14	9.5E-15	75
J23TE3-66C-R500U-2.4	0.50				2.2E+07	4.4E+07	2.2E+12	3.2E+12	2.0E-14	1.4E-14	250
J23TE3-66C-R01M-2.4	1.00				7.5E+06	1.5E+07	2.6E+12	3.7E+12	3.4E-14	2.4E-14	1000
J23TE3-66C-R02M-2.4	2.00				1.0E+06	2.0E+06	1.9E+12	2.7E+12	9.3E-14	6.6E-14	4000
J23TE3-66C-R03M-2.4	3.00				2.5E+05	5.0E+05	1.4E+12	2.0E+12	1.9E-13	1.3E-13	9000
J23TE4-3CN-R250U-2.4	0.25	-85	2.27+/-0.10	1.15	1.5E+08	3.0E+08	3.1E+12	4.3E+12	7.2E-15	5.1E-15	75
J23TE4-3CN-R500U-2.4	0.50				6.6E+07	1.3E+08	4.1E+12	5.7E+12	1.1E-14	7.7E-15	250
J23TE4-3CN-R01M-2.4	1.00				2.5E+07	5.0E+07	5.0E+12	7.1E+12	1.8E-14	1.3E-14	1000
J23TE4-3CN-R02M-2.4	2.00				3.1E+06	6.2E+06	3.5E+12	5.0E+12	5.0E-14	3.6E-14	4000
J23TE4-3CN-R03M-2.4	3.00				8.0E+05	1.6E+06	2.7E+12	3.8E+12	9.9E-14	7.0E-14	9000

* Tighter tolerance for cutoff and peak wavelengths may be available upon customer request.
All specifications are for detector operation at 0V bias and 22C unless otherwise specified.

2.6µm Cutoff Thermoelectrically Cooled Extended InGaAs Detectors

Detector Model Number	Active Size Diameter (mm)	Operating Temp. (°C)	50% Cutoff Wavelength* (µm)	Peak Responsivity (A/W) min	Shunt Impedance (Ohm)		Peak D* (cmHz ^{1/2} /W) @ 1KHz		NEP (W/rt-Hz) @ peak wavelength		Capacitance (pF) @ 0V typ
					min	typ	min	typ	max	typ	
J23TE1-66C-R250U-2.6	0.25	-20	2.52+/-0.10	1.2	7.0E+05	1.4E+06	1.9E+11	2.7E+11	1.2E-13	8.3E-14	75
J23TE1-66C-R500U-2.6	0.50				2.6E+05	5.2E+05	2.3E+11	3.2E+11	1.9E-13	1.4E-13	250
J23TE1-66C-R01M-2.6	1.00				8.0E+04	1.6E+05	2.5E+11	3.6E+11	3.5E-13	2.5E-13	1000
J23TE1-66C-R02M-2.6	2.00				1.3E+04	2.6E+04	2.1E+11	2.9E+11	8.6E-13	6.1E-13	4000
J23TE1-66C-R03M-2.6	3.00				3.5E+03	7.0E+03	1.6E+11	2.3E+11	1.7E-12	1.2E-12	9000
J23TE2-66C-R250U-2.6	0.25	-40	2.48+/-0.10	1.2	3.0E+06	6.0E+06	4.1E+11	5.7E+11	5.5E-14	3.9E-14	75
J23TE2-66C-R500U-2.6	0.50				1.3E+06	2.6E+06	5.3E+11	7.6E+11	8.3E-14	5.9E-14	250
J23TE2-66C-R01M-2.6	1.00				4.0E+05	8.0E+05	5.9E+11	8.4E+11	1.5E-13	1.1E-13	1000
J23TE2-66C-R02M-2.6	2.00				6.0E+04	1.2E+05	4.6E+11	6.5E+11	3.9E-13	2.7E-13	4000
J23TE2-66C-R03M-2.6	3.00				1.5E+04	3.0E+04	3.4E+11	4.9E+11	7.7E-13	5.5E-13	9000
J23TE3-66C-R250U-2.6	0.25	-65	2.45+/-0.10	1.2	1.4E+07	2.8E+07	9.3E+11	1.3E+12	2.4E-14	1.7E-14	75
J23TE3-66C-R500U-2.6	0.50				6.0E+06	1.2E+07	1.2E+12	1.7E+12	3.6E-14	2.6E-14	250
J23TE3-66C-R01M-2.6	1.00				2.0E+06	4.0E+06	1.4E+12	2.0E+12	6.3E-14	4.5E-14	1000
J23TE3-66C-R02M-2.6	2.00				2.9E+05	5.8E+05	1.1E+12	1.5E+12	1.7E-13	1.2E-13	4000
J23TE3-66C-R03M-2.6	3.00				7.0E+04	1.4E+05	7.9E+11	1.1E+12	3.4E-13	2.4E-13	9000
J23TE4-3CN-R250U-2.6	0.25	-85	2.43+/-0.10	1.2	4.0E+07	8.0E+07	1.7E+12	2.3E+12	1.3E-14	9.5E-15	75
J23TE4-3CN-R500U-2.6	0.50				1.8E+07	3.6E+07	2.2E+12	3.1E+12	2.0E-14	1.4E-14	250
J23TE4-3CN-R01M-2.6	1.00				6.0E+06	1.2E+07	2.6E+12	3.6E+12	3.5E-14	2.5E-14	1000
J23TE4-3CN-R02M-2.6	2.00				8.5E+05	1.7E+06	1.9E+12	2.7E+12	9.2E-14	6.5E-14	4000
J23TE4-3CN-R03M-2.6	3.00				2.0E+05	4.0E+05	1.4E+12	2.0E+12	1.9E-13	1.3E-13	9000

* Tighter tolerance for cutoff and peak wavelengths may be available upon customer request.
All specifications are for detector operation at 0V bias and 22C unless otherwise specified.

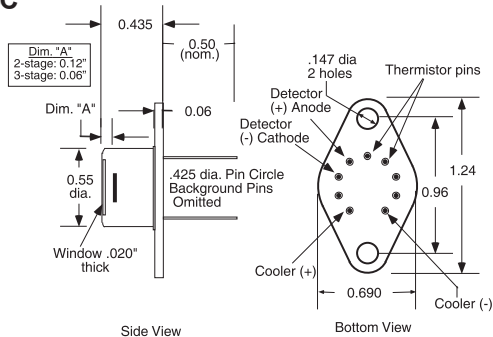
J22 and J23 SERIES InGaAs PHOTODIODES

Operating Instructions

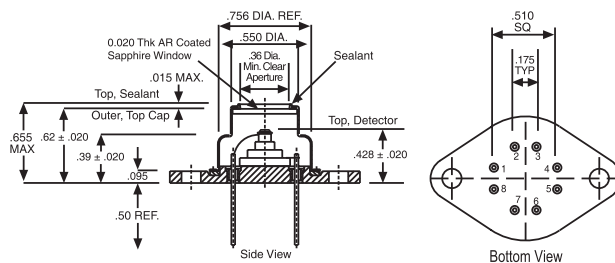
Standard Packages

All dimensions are in inches. Detector (+) -- Anode Detector (-) -- Cathode

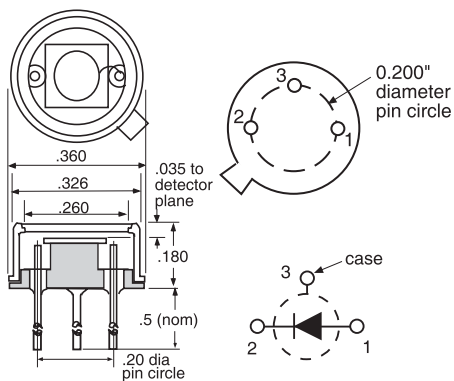
66C



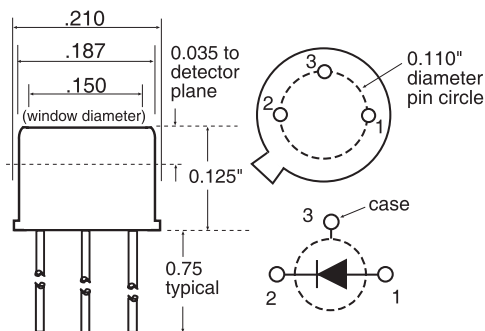
3CN



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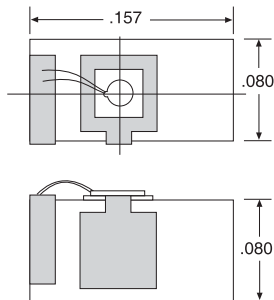


181

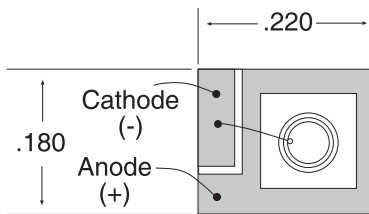


Optional Packages

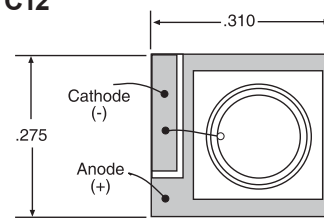
C02



C11



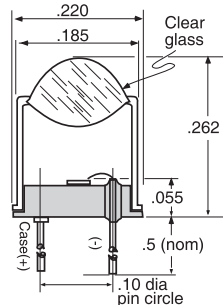
C12



Note: .010 thick ceramic substrate used for both C11 and C12.



18D



LD, LD2

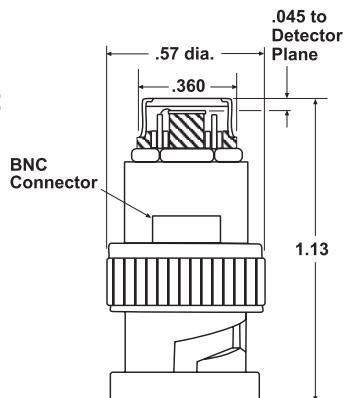
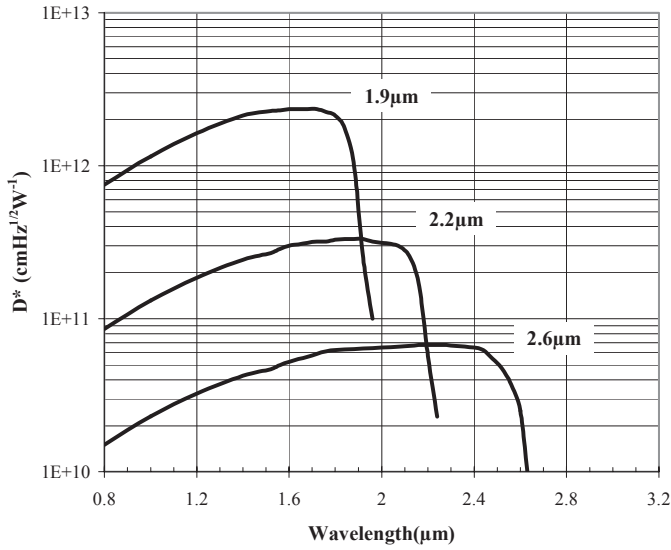


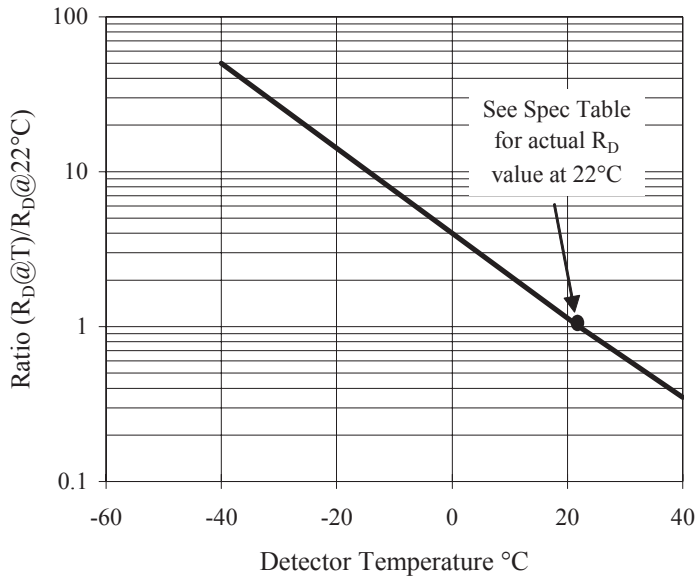


Figure 2
 Typical D^* vs Wavelength



Parameter	Min	Max	Units
Uniformity of Response @ Peak over Area (25°C)		±2	%
Storage Temperature	-55	+80	°C
Operating Temperature	-55	+60	°C

Figure 3
 Typical Change in Shunt Resistance vs Temperature



Information in this document is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.