

Infrared detector module with preamp

Non-cooled Type

Easy-to-use detector module with built-in preamp



These infrared detector modules contain a preamp and operate by just connecting to a DC power supply. The detector element is selectable from among InGaAs, PbSe, and photon drag detectors. The photon drag detector (B7506-01) is especially suited for CO₂ laser detection. Thermoelectrically cooled types are also available for InGaAs and PbSe detectors. Besides these detectors, we welcome requests for custom devices that suit your application.

Features

- Compact size
- Easy-to-use
Operates just by connecting to DC power supply
- Circuit design optimized for detector element characteristics

Applications

- Infrared detection
- CO₂ laser detection

Accessories (Supplied)

- 4-conductor cable for non-cooled type (for connection to DC power supply): 2 m (connector installed on one end) A4372-02
- Instruction manual

■ Specifications / Absolute maximum ratings

Type No.	Detector element	Active area (mm)	External input voltage (V)	Absolute maximum ratings				
				Current consumption*1 (mA)	Incident light level*2		Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)
					CW light (J/cm ²)	Pulse light (MW)		
G6121	InGaAs	φ5	±15	±15	-	-	0 to +40	-20 to +50
P4245	PbSe	3 × 3		±15	-	-		
B7506-01	Photon drag	φ4.6		+30, -10	1	1		

*1: Recommended DC power supply (analog power supply): ±15 V

Current capacity: More than 1.5 times the maximum current consumption

Ripple noise: 5 mVp-p or less

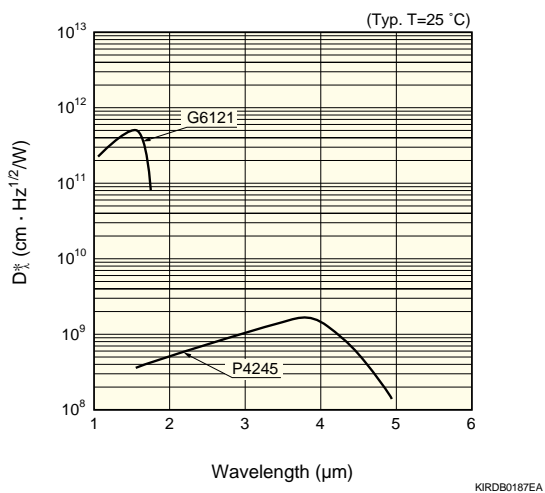
*2: Light level at which photon drag detector temperature does not exceed 60 °C

■ Electrical and optical characteristics (Typ.)

Type No.	Measurement condition	Peak sensitivity wavelength λ _p (μm)	Cut-off wavelength λ _c (μm)	Photo sensitivity S λ=λ _p *3 (V/W)	NEP (W/Hz ^{1/2})	Frequency response -3 dB (Hz)	Output impedance (Ω)	Output voltage R _L =1 kΩ (V)
	Element temperature T (°C)							
G6121	25	1.55	1.7	1 × 10 ⁶	5 × 10 ⁻¹³	DC to 8 k	50	+10
P4245		4.0	4.8	5 × 10 ⁴	2 × 10 ⁻¹⁰	0.2 to 10 k		±10
B7506-01		10.6	-	0.013	3 × 10 ⁻²	50 to 500 k		±10

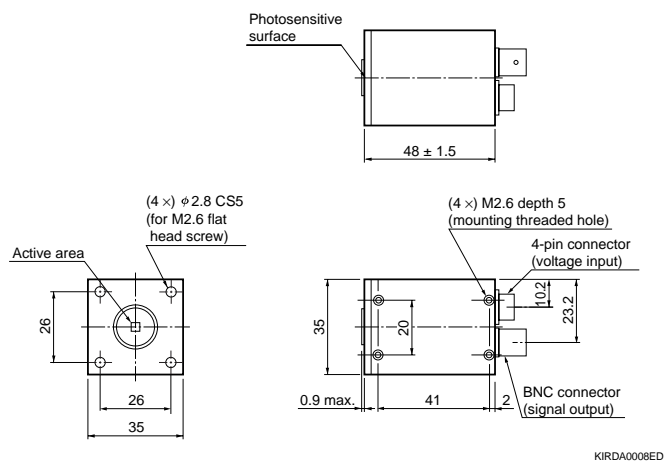
*3: f=100 Hz (G6121), f=600 Hz (P4245)

■ Spectral response

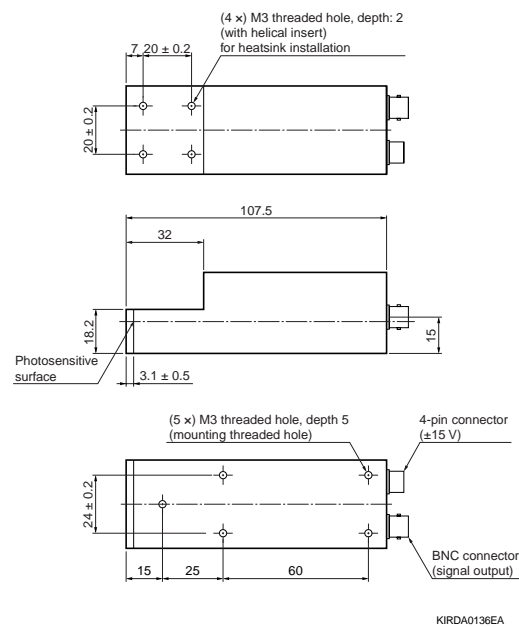


■ Dimensional outlines (unit: mm)

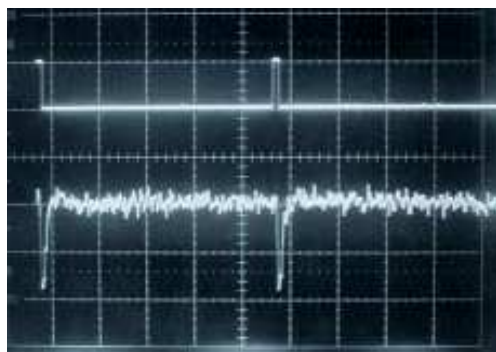
G6121, P4245



B7506-01



■ Output waveform example (B7506-01)



Input beam CO₂ laser
 Peak power 45 W
 Repetition rate 100 Hz
 Pulse width 200 μs

Information described in this material is current as of February, 2011. Product specifications are subject to change without prior notice due to improvements or other reasons. Before assembly into final products, please contact us for the delivery specification sheet to check the latest information.

Type numbers of products listed in the delivery specification sheets or supplied as samples may have a suffix "(X)" which means preliminary specifications or a suffix "(Z)" which means developmental specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.

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