

# Photon drag detector B749

High-speed detector with high sensitivity in the 10 μm band (for CO<sub>2</sub> laser detection)



B749 is a photon drag detector that utilizes the photon drag effect in which carriers created by input photons are dragged in the direction of photons, generating an electromotive force. B749 ensures high-speed operation even at room temperatures and has high sensitivity in the 10 μm band, making it well suited to detection of CO<sub>2</sub> lasers. An easy-to-use detector module integrated with a preamplifier (B7506-01) is also available.

## Features

- Room temperature operation with high-speed response
- Easy-to-use detector module with amplifier (B7506-01) is available

## Applications

- CO<sub>2</sub> laser detection

## ACCESSORIES (Optional)

- Magnet stand A1447
- Infrared detector module with preamp B7506-01

### ■ General ratings

Parameter	Specification	Unit
Active area	φ5	mm
Output polarity	Positive	-

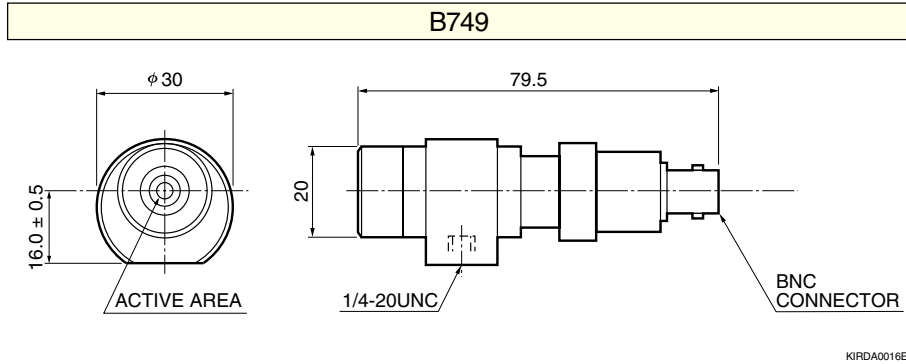
### ■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Operating temperature	Topr	0 to +60	°C
Storage temperature	Tstg	0 to +60	°C

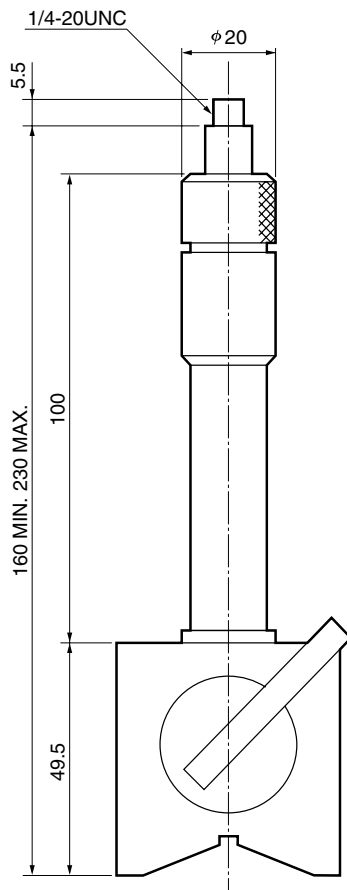
### ■ Electrical and optical characteristics (T=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Photo sensitivity	S	λ=10.6 μm	-	1.2	-	mV/kW
Rise time	tr	10 to 90 %	-	-	1	ns
Noise equivalent power	NEP	λ=10.6 μm	-	4 × 10 <sup>-3</sup>	-	W/Hz <sup>1/2</sup>
Output impedance	-		-	50	-	Ω
Maximum input light level	-		-	1	-	J/cm <sup>2</sup>

■ Dimensional outline (unit: mm)



**Magnet stand A1447 (sold separately)**



■ Precautions for use

The Ge element mounted in the detector package is susceptible to shocks and drop impacts. Handle the detector with extreme care.

Do not allow light higher than 10 MW/cm<sup>2</sup> to strike the detector element, because the element surface might be damaged.

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidsvågen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741