

Photon drag detector B749

High-speed detector with high sensitivity in the 10 μm band (for CO₂ 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 CO₂ 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

- CO₂ 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	-

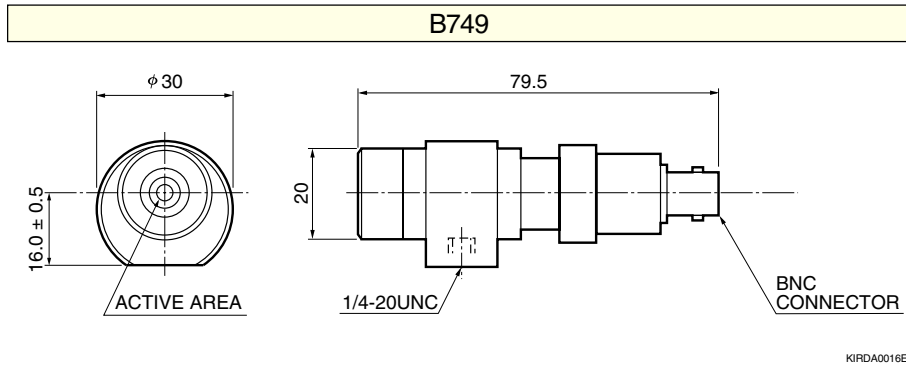
■ Absolute maximum ratings

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

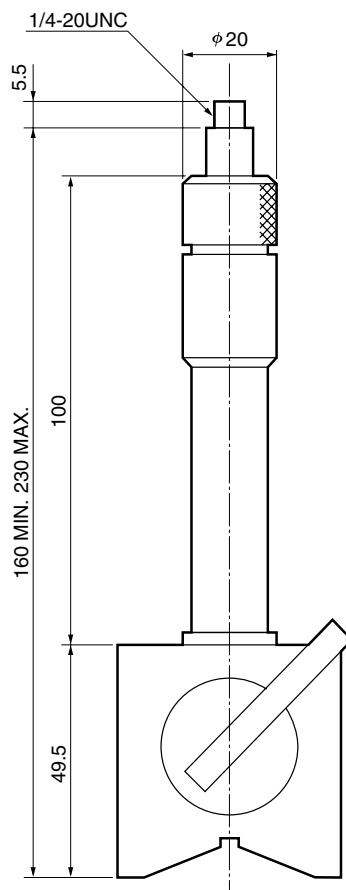
■ Electrical and optical characteristics (T=25 °C)

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 ⁻³	-	W/Hz ^{1/2}
Output impedance	-		-	50	-	Ω
Maximum input light level	-		-	1	-	J/cm ²

■ 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/cm² to strike the detector element, because the element surface might be damaged.

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