Photoelectric Sensors
for PCB Detection

BJP Series



Features

- 30 mm × 3 mm of rectangular light beam (at 30 mm distance) provides accurate detection of PCBs regardless of holes, incomplete fabrication, protrusions, or intrusions on the boards.
- Background suppression (BGS) sensing method allows stable detection regardless of the color, texture or surface of the background object.
- Sensing distance: 10 to 100 mm (adjustable distance: 20 to 100 mm)
- Switch for selecting Light ON / Dark ON mode
- Reverse power protection circuit, output short overcurrent protection circuit
- IP65 protection rating (IEC standard)

Specifications

Model	BJP100-BDT-□
Sensing type	BGS reflective
Sensing distance	10 to 100 mm [01] (at sensing distance: 100 mm)
Sensing target	Opaque materials
Sensing distance setting	20 to 100 mm [01]
Hysteresis	≤ 10 % of setting distance [01]
Response time	≤ 1.5 ms
Light source	Red
Peak emission wavelength	660 nm
Beam spot size	W 3 × L 30 mm (at sensing distance: 30 mm)
Operation mode	Light ON mode - Dark ON mode selectable (Adjuster)
Indicator	Operation indicator (red), stability indicator (green)
Approval	CE EAC
Unit weight (packaged)	≈ 50 g (≈ 105 g)

01) Non-glossy white paper 100 × 100 mm

Power supply	12-24 VDC⎓ ±10 % (ripple P-P: ≤ 10 %)
Current consumption	≤ 30 mA
Control output	NPN open collector output / PNP open collector output model
Load voltage	≤ 26.4 VDC⎓
Load current	≤ 100 mA
Residual voltage	NPN: ≤ 1 VDC⎓, PNP: ≤ 2 VDC⎓
Protection circuit	Reverse power protection circuit, output short overcurrent protection circuit
Insulation resistance	≥ 20 MΩ (500 VDC⎓ megger)
Noise immunity	±240 VDC⎓ the square wave noise (pulse width: 1 μs) by the noise simulator
Dielectric strength	1,000 VAC~ 50/60 Hz for 1 min
Vibration	1.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours
Shock	500 m/s² (≈ 50 G) in each X, Y, Z direction for 3 times
Ambient illuminance (receiver)	Sunlight: ≤ 10,000 lx, incandescent lamp: ≤ 3,000 lx
Ambient temperature	-25 to 55 °C, storage: -40 to 70°C (no freezing or condensation)
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)
Protection rating	IP65 (IEC standard)
Connection	Cable type
Cable spec.	Ø 3.5 mm, 3-wire, 2 m
Wire spec.	AWG24 (0.08 mm, 40-core), insulator outer diameter: Ø 1 mm
Material	Case: PC+ABS, CAP: PC, sensing part: PMMA

View product detail