Magnetic Proximity Sensors (Reed)

BP4 Series SMD Reed Sensor

General Description

BST SMD Reed Sensor (BP4 Series) is a surface-mount magnetic proximity sensor designed for compact electronic devices and PCB-based applications.

Based on reed switch technology, it offers reliable switching performance, zero standby power consumption, and excellent long-term stability.

With its miniature SMD package, BP4 series is ideal for space-limited designs, enabling direct PCB mounting through reflow soldering. Multiple sensitivity options are available to meet different magnetic sensing requirements.

Key Features

- Ultra-compact SMD package for PCB mounting
- No standby power consumption
- High reliability and long mechanical life
- Fast switching response
- Compatible with standard reflow soldering processes
- Multiple magnetic sensitivity options
- Wide operating temperature range
- Suitable for high-density electronic assemblies
- RoHS & REACH compliant

Application

- Smart home devices
- Consumer electronics
- Wearable devices
- Portable electronics
- PCB-level position detection
- Battery-powered equipment
- Medical and measuring devices (non-safety)

Electrical Specifications

Item	BP4-A (NO)	BP4-B (NC)
Contact Form	Form A (NO)	Form B (NC)
Rated Power (max)	10 W	5 W
Switching Voltage (max)	100 V	100 V
Switching Current (max)	0.5 A	0.25 A
Breakdown Voltage (min)	200 V	150 V
Contact Resistance (initial)	≤150 mΩ	≤200 mΩ
Insulation Resistance	≥10^9 Ω	≥10^9 Ω
Operate Time	≤0.5 ms	≤0.5 ms
Release Time	≤0.5 ms	≤0.5 ms
Switching Frequency	Up to 200 Hz	Up to 200 Hz

Mechanical Specifications

Item	Specification
Package Type	SMD
Housing Material	Glass reed capsule with epoxy coating
Mounting Method	Surface mount (Reflow soldering)
Terminal Type	SMD pads
Overall Length	10–14 mm (depending on type)
Operating Temperature	−40°C to +125°C
Storage Temperature	−40°C to +125°C

Environmental Specifications

Item	Specification
Vibration	10–2000 Hz, 20 G
Shock	100 G, 6 ms
Thermal Cycling	−40°C ~ +125°C
Humidity	85°C, 85% RH

Part Number Naming & Standard Models

BP4 – XXX – X – X

Code	Description
BP4	Series
XXX	Body size
X	Contact Form: A = NO / B = NC / C = Changeover
X	Lead type: A= Axial leads/G= Gull-wing leads/J= J-bends

Part Number	Contact Configuration	Operate Range	Contact Rating	Switching Voltage	Switching Current	Body Size (mm)	Special Feature
BP4-018-A-J	SPST-NO	66~114 AT	10 W	200 V	1.0 A	18.00*2.50*3.75	J Bend
BP4-018-B-J	SPST-NC	42~84 AT	10 W	100 V	0.5 A	18.00*3.70*3.40	J Bend
BP4-016-A-G	SPST-NO	37~59 AT	10 W	180 V	0.5 A	16.00*2.50*2.50	Gull Wing Short
BP4-016-A-A	SPST-NO	45~80 AT	10 W	180 V	0.5 A	16.00*2.50*2.50	Axial
BP4-011-A-A	SPST-NO	10~15 AT	20 W	200 V	0.4 A	11.60*2.30*2.30	Axial
BP4-011-A-G	SPST-NO	20~47 AT	20 W	200 V	0.4 A	11.60*2.30*2.30	Gull Wing Short
BP4-008-A-G	SPST-NO	38~54 AT	10 W	100 V	0.5 A	8.50*2.10*2.10	Gull Wing Short
BP4-008-A-J	SPST-NO	50~66 AT	10 W	100 V	0.5 A	8.50*2.10*2.10	J Bend
BP4-008-A-A	SPST-NO	44~60 AT	10 W	100 V	0.5 A	8.50*2.10*2.10	Axial

Important Notes

1. Standard models are for reference only.
2. Sensitivity levels are defined under standard test conditions.
3. Magnet matching is required for proper operation.
4. Custom sensitivity, package size, and electrical ratings are available upon request.
5. OEM / ODM solutions are supported.

Reference Drawing (Different sizes are available, please contact BST for more sensor information)