Reed Switch Product Specifications

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1. Product Overview

SHR AUTOSENSOR TECH LIMITED offers a comprehensive range of reed switches and reed proximity switches designed for high-end sensor applications. Our products feature reliable contact switch output, high insulation resistance, and are suitable for low power operation. All products conform to RoHS directive and support custom design requirements.

Key Features

- Reliable contact switch output
- High-end sensor applications
- High insulation resistance (up to 10^9 Ω)
- Suitable for low power operation
- Custom design available
- RoHS compliant

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2. MRS Series Product Line

2.1 MRS01 Series - Molded Dry Reed Switch

Features:

- Small single-contact switch
- High insulation resistance up to 10^9 Ω
- Suitable for tape or reel packaging
- Multiple pin configurations available

Pin Configurations:

- Original reed straight pin

- Flat straight pin
- Flat and curved SMD pins
- J-pin

2.2 MRS02/MRS02A/MRS02B Series - Molded Dry Reed Switch

Compact molded dry reed switches for various industrial applications with reliable performance and long service life.

2.3 MRS03 Series - Molded Dry Reed Switch

Enhanced molded dry reed switch with improved mechanical stability and environmental resistance.

2.4 MRS04/MRS05 Series - Reed Switch with Integrated Resistor

Features:

- Integrated resistor for simplified circuit design
- Reduced component count
- Improved reliability

2.5 MRS06 Series - PCB Mounting Reed Switch

Designed specifically for direct PCB mounting applications with optimized lead configuration.

2.6 MRS07-MRS10 Series - Reed Proximity Switch

Standard reed proximity switches for general-purpose sensing applications with various housing materials including plastic and brass options.

2.7 MRS11-MRS16 Series - Reed Proximity Switch

Mid-range reed proximity switches with enhanced performance characteristics and wider operating temperature ranges.

2.8 MRS17 Series - Molded Dry Reed Switch

Advanced molded construction providing superior environmental protection and mechanical durability.

2.9 MRS18-MRS21 Series - Reed Proximity Switch

High-performance reed proximity switches featuring:

- Withstands temperature up to 130°C
- Multiple contact forms (Form A, Form B, Form C/SPDT)
- Power ratings from 10W to 100W

- Wide voltage range capabilities

2.10 MRS19 Series - Door Contact Switch

Specialized door contact switch with:

- High insulation resistance up to 10^9 Ω
- Optimized for security and access control applications
- Compact design for discreet installation

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3. Technical Specifications

3.1 Electrical Characteristics

Parameter	Unit	Typical Range
Rated Power (max.)	W	10 - 100
Switching Voltage (Max DC/Peak AC)	V	100 - 1000
Switching Current (Max DC/Peak AC)	A	0.2 - 1.0
Carry Current (max.)	A	1.0 - 2.5
Contact Resistance (@0.5V & 50mA)	mΩ	100 - 150
Breakdown Voltage	VDC	200 - 1500
Insulation Resistance (Rh <45%, 100V Test)	Ω	10^9 - 10^{12}
Capacitance (typ.)	pF	0.2 - 1.5

3.2 Dynamic Characteristics

Parameter	Unit	Typical Range
Operating Time (max.)	ms	0.6 - 1.1
Release Time (max.)	ms	0.05 - 1.5

3.3 Mechanical Characteristics

Parameter	Unit	Value
Vibration Resistance	G	20
Shock Resistance (1/2 sine wave, 11ms duration)	G	30

3.4 Environmental Characteristics

Parameter	Unit	Range
Operating Temperature	°C	-40 to +130 (varies by series)
Storage Temperature	°C	-50 to +130 (varies by series)

Note: Specific temperature ranges vary by product series. Please refer to individual series datasheets for exact specifications.

3.5 Magnetic Sensitivity Options

Code	Sensitivity Range (AT)
A	05-10
B	10-15
C	15-20
D	20-25
E	25-30
F	30-35
G	35-40

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4. Ordering Information

4.1 Standard Ordering Format

Example: **MRS21 - □ - □ - □ - □ (XXX)**

Position	Description	Options
①	Product Model	MRS01, MRS02, MRS03, etc.
②	Contact Form	1A (Form A), 1B (Form B), 1C (Form C/SPDT)
③	Switch Characteristic	1 (10W), 2 (70W), 3 (100W)
④	Magnetic Sensitivity	A-G (see sensitivity table above)
⑤	Cable Length	1 (200), 2 (300), 3 (500), 4 (1000), 5 (1500), 6 (2000),

Position	Description	Options
	(mm)	7 (3000), 8 (5000)
⑥	Special Code	Customer special requirements

4.2 MRS01 Series Ordering Format

Example: **MRS01 - □ - □ (XXX)**

Position	Description	Options
①	Product Model	MRS01
②	Magnetic Sensitivity	A-G (see sensitivity table)
③	PIN Mode	0 (Original straight), 1 (Flat straight), 2 (SMD), 3 (J-pin)
④	Special Code	Customer special requirements

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5. Application Guidelines

5.1 Typical Applications

- Security systems and door contacts
- Industrial automation and position sensing
- Consumer electronics
- Automotive applications
- Medical devices
- Home appliances
- Level detection systems
- Proximity sensing

5.2 Selection Guide

When selecting the appropriate reed switch for your application, consider:

1. **Power Requirements**: Choose appropriate wattage rating (10W, 70W, or 100W)
2. **Voltage Rating**: Ensure switching voltage exceeds maximum application voltage
3. **Current Rating**: Verify current handling capability meets load requirements
4. **Contact Form**: Select Form A (NO), Form B (NC), or Form C (SPDT) as needed
5. **Magnetic Sensitivity**: Match AT rating to your magnet strength and air gap
6. **Environmental Conditions**: Consider operating temperature range and exposure conditions
7. **Mounting Configuration**: Choose appropriate pin style or cable length

6. Precautions for Use

To ensure optimal performance and longevity of our reed switches, please observe the following precautions:

6.1 Installation Environment

- **Avoid** installation in areas directly exposed to rain or moisture
- **Avoid** strong magnetic fields that may interfere with switch operation
- **Avoid** proximity to objects with thermal radiation
- Ensure adequate ventilation around the switch

6.2 Mechanical Handling

- **Avoid** excessive bulk density during use, which may affect electrical characteristics
- **Avoid** excessive mechanical shock that may change magnetic sensitivity or damage the switch
- The minimum bending distance from the wire to the housing is **5mm**
- **Dragging of wires is prohibited**

6.3 Soldering and Assembly

- Use appropriate pin tightening or heat dissipation methods
- Prevent mechanical or thermal stress during welding
- Maximum welding temperature: **260°C**
- Maximum welding time: **less than 5 seconds**
- Allow adequate cooling time between soldering operations

6.4 Storage

- Store in dry environment with relative humidity below 45%
- Avoid exposure to corrosive gases
- Maintain storage temperature within specified range
- Keep original packaging until ready for use

Technical Support

For specific parameters and performance details of each product, please refer to the individual series specifications provided by SHR AUTOSENSOR TECH LIMITED.

Performance parameters may vary depending on application conditions. Customers should select appropriate products according to their specific usage conditions.

For technical support, please contact:

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Disclaimer

This document is for customer reference only. Specifications and parameters are subject to change due to product improvement without prior notice. SHR AUTOSENSOR TECH LIMITED reserves the right to modify product specifications at any time.

Customers are responsible for verifying product suitability for their specific applications. SHR AUTOSENSOR TECH LIMITED shall not be liable for any damages resulting from improper product selection or application.

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