

### MDSR-10 10.2mm Sub-miniature Reed Switch







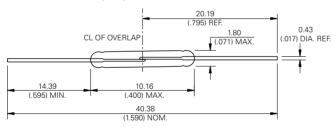
### **Agency Approvals**

Agency	Agency File Number	Ampere-Turns Range
c <b>FL</b> °us	E47258 E471070	10-25 AT

Note: Contact Littelfuse for specific agency approval ratings.

#### **Dimensions**

Dimensions in mm (inch)



### **Description**

The MDSR-10 Reed Switch is a sub-miniature, normally open switch with a 10.16mm long x 1.80mm diameter (0.400" x 0.071") glass envelope, capable of switching 200Vdc at 10W. It has high insulation resistance of  $10^{12}$  ohms minimum and low contact resistance of less than 120 milli-ohms. This reed switch is also available in a surface mount version, that is, MDSM-10.

#### **Features**

- Sub-miniature normally open switch
- Capable of switching 200Vdc or 0.5A at up to 10W
- 10<sup>12</sup> Ohms insulation resistance
- Available sensitivity range 10-25 AT

#### **Benefits**

- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- · Low space requirement
- Zero operating power required for contact
- Excellent for switching microcontroller logic level loads

### **Applications**

- Reed Relays (particularly suited to ATE type applications)
- · Security Systems
- Limit Switching
- · Office Equipments

### **Switch Type**

Contact Form	A (SPST-NO)
Materials	Body: Glass Leads: Tin-plated Ni-Fe wire

Note: SPST-NO = Single-pole, single-throw, normally open

### **Electrical Ratings**

Contact Rating <sup>1</sup>		W/VA - max.	10
Voltage <sup>3</sup>	Switching <sup>2</sup> Breakdown <sup>4</sup>	Vdc - max. Vac - max. Vdc - min.	200 140 250
Current <sup>3</sup>	Switching <sup>2</sup> Carry	Adc - max. Aac - max. Adc - max.	0.50 0.35 1.00
Resistance	Contact, Initial Insulation	$\Omega$ - max. $\Omega$ - min.	0.120 10 <sup>12</sup>
Capacitance	Contact	pF - typ.	0.2
Temperature	Operating Storage <sup>5</sup>	°C °C	-40 to +125 -65 to +125

#### Notes:

- 1. Contact rating Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- 2. When switching inductive and/or capacitive loads, the effects of transient voltages and/or currents should be considered. Refer to Application Notes AN108A and AN107 for details.
- 3. Electrical Load Life Expectancy Contact Littelfuse with voltage, current values along with type of load.
- 4. Breakdown Voltage per MIL-STD-202, Method 301.
- 5. Storage Temperature Long time exposure at elevated temperature may degrade solderability of the leads.



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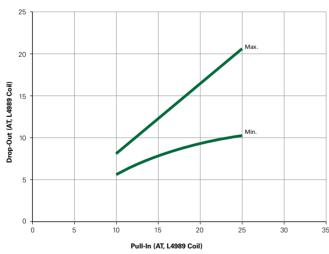
#### **Product Characteristics**

Operating Characteristics					
Operate Time <sup>1</sup>		0.5ms - max.			
Release Time <sup>1</sup>		0.1ms - max.			
Shock <sup>2</sup>	11ms 1/2 sine wave	100G - max.			
Vibration <sup>2</sup>	50-2000 Hertz	30G - max.			
Resonant Frequency		8.5kHz - typ.			
Magnetic Characteristics					
Pull-In Range <sup>3</sup>	Ampere Turns	10-25			
Rating Sensitivity <sup>4</sup>	Ampere Turns	15			
Test Coil		L4989			

#### Notes:

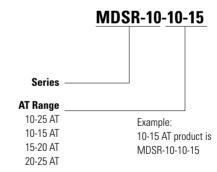
- 1. Operate (including bounce)/Release Time per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- 2. Shock and Vibration per EIA/NARM RS-421-A and MIL-STD-202.
- 3. Pull-In Range Contact Littelfuse for narrower AT ranges available.
- 4. Rating Sensitivity The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
- 5. Custom modifications of forming and/or cutting of reed switches are available. Please contact Littelfuse.

### **Drop-Out vs. Pull-In Chart**



Note: Chart represents the range of Drop-Out, min to max for a given Pull-In value.

## **Part Numbering System**



Note: These AT values are the before-modification values of the bare reed switch.

### **Packaging**

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	1000	N/A	N/A