

# MVSR-20

## 19.7mm Reed Switch



### Description

The MVSR-20 series reed switch is a miniature, normally open switch with a 19.69mm long x 2.66mm diameter (0.775" x 0.105") glass envelope, capable of high voltage switching of up to 1kVdc at 1mA. It has high insulation resistance of 10<sup>12</sup> ohms minimum and contact resistance less than 100 milli-ohms.

### Features and Benefits

- Miniature normally open switch
- Capable of switching 1000 Vdc at 1 mA or 0.5 A up to 10 W
- Minimum voltage breakdown 2000 Vdc
- Available sensitivity range 17-48AT
- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Zero operating power required for contact closure

### Web Resources



Download ECAD models, order samples, and find technical resources at [www.littelfuse.com](http://www.littelfuse.com)

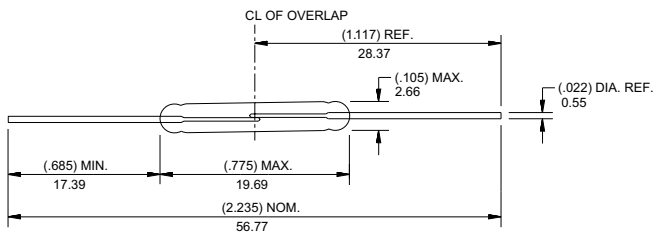
### Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
	E67006	17-48 AT

Note: Contact Littelfuse for specific agency approval ratings.

### Dimensions

Dimensions in mm (inch)



### Applications

- Reed relays (particularly suitable for high voltage breakdown applications)
- Security
- Limit switching
- Telecoms line switching
- Industrial equipment
- Automatic test equipment

### Switch Type

<b>Contact Form</b>	A (SPST-NO)
<b>Materials</b>	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.	1000
		Vac - max.	265
		Vdc - min.	< 32AT = 2000 min 32-38 AT = 3000 min 37-48 AT = 3600 min
Current <sup>3</sup>	Switching <sup>2</sup> Carry	Adc - max.	0.50
		Aac - max.	0.35
		Adc - max.	1.30
Capacitance	Contact	pF - typ.	0.43
Resistance	Contact, Initial Insulation	Ω - max.	0.100
		Ω - min.	10 <sup>12</sup>
Temperature	Operating	°C	-65 to +125
	Storage <sup>5</sup>		

**Notes:**

- Contact rating - Product of the switching voltage and current should never exceed the wattage rating. Contact Littelfuse for additional load/life information.
- 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.

- Electrical Load Life Expectancy - Contact Littelfuse with voltage, current values along with type of load.
- Breakdown Voltage- per MIL-STD-202, Method 301.
- Storage Temperature - Long time exposure at elevated temperature may degrade solderability of the leads.

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### Product Characteristics

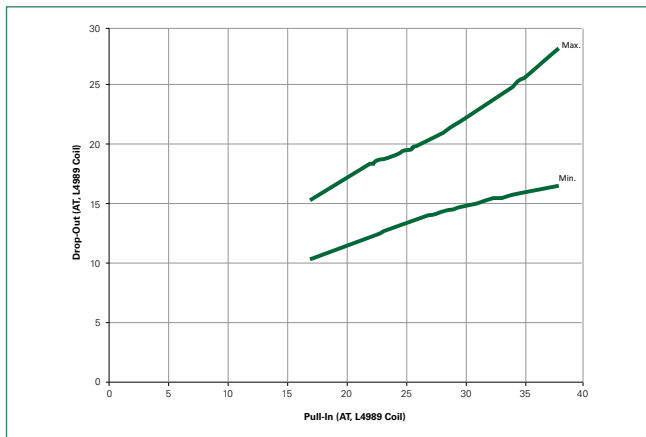
Operating Characteristics		
Operate Time <sup>1</sup>	-	0.75ms - max.
Release Time <sup>1</sup>	-	0.30ms - max.
Shock <sup>2</sup>	11 ms 1/2 sine wave	20G - max.
Vibration <sup>2</sup>	50-2000 Hertz	10G - max.
Resonant Frequency	-	3.5kHz - typ.

Magnetic Characteristics		
Pull-In Range <sup>3</sup>	Ampere Turns	17-48
Rating Sensitivity <sup>4</sup>	Ampere Turns	35 and 45
Test Coil	-	L4989

**Notes:**

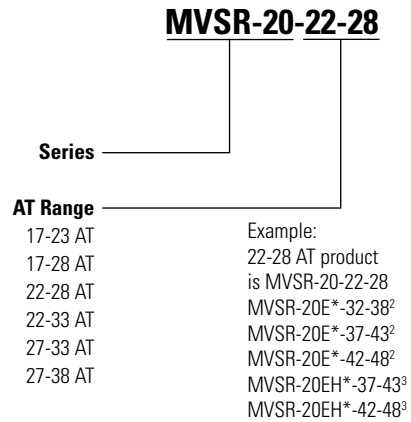
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available.
- Rating Sensitivity - The value at which contact ratings and operating characteristics are determined. Derating may be required below this value.
- 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.
- E = 3000V Voltage Breakdown
- EH = 3600V Voltage Breakdown

### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
Bulk	Bulk	1000	-	-

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