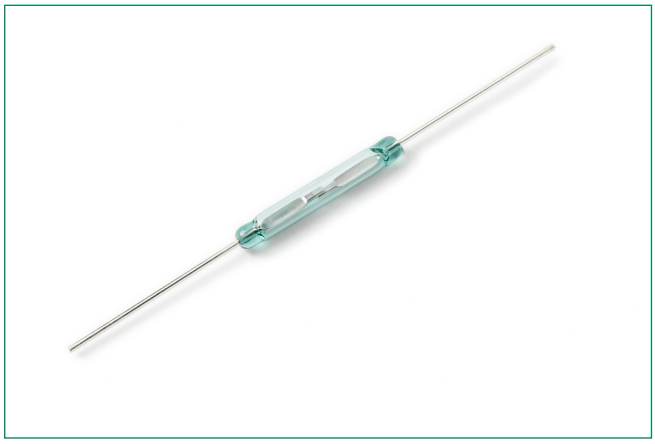
MRPR-20

20.3mm Miniature High Voltage and High Power Reed Switch



Description

The MRPR-20 Reed Switch is a miniature, normally open switch with a 20.32mm long x 2.84mm diameter (0.800" x 0.112") glass envelope, capable of high voltage and power switching of 265Vac at 50VA. The MRPR-20 has high insulation resistance of 10^{10} ohms minimum and contact resistance less than 100 milli-ohms.

Features & Benefits

- Miniature normally open switch
- Capable of switching 265Vac or 1.5A at up to 50W/VA
- Minimum breakdown voltage 750Vdc
- Available sensitivity range 17-43 AT
- UL Recognized to UL 121201, UL 60079-0, UL 60079-15, C22.2 No. 213-17, C22.2 No. 60079-0 and C22.2 No. 60079-15.
- Approved to EN 60079-0 and EN 60079-15.
- Hermetically sealed switch contacts are not affected by and have no effect on their external environment
- Zero operating power required for contact
- High voltage and power switching with a miniature switch

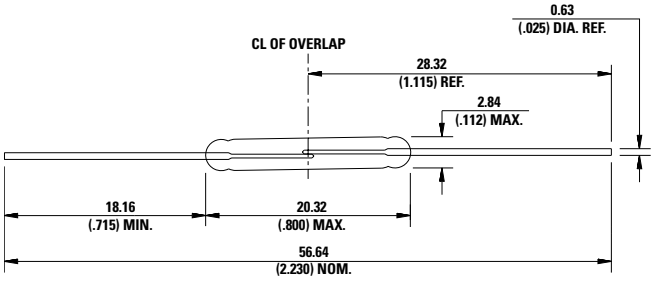
Agency Approvals

Agency	Agency File Number	Ampere-Turns Range
c UL us	E47258, E471070	17-43 AT

Note: Contact Littelfuse for specific agency approval ratings.

Dimensions

Dimensions in mm (inch)



Applications

- Reed relays (suitable for switching global mains voltage)
- Limit switching
- Telecom line switching
- Heavy Load Switching

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 [1]		W/VA - max.	50
Voltage [3]	Switching [2]	Vdc - max.	250
		Vac - max.	265
	Breakdown [4]	Vdc - min.	750
Current [3]	Switching [2]	Adc - max.	1.5
		Aac - max.	1.1
	Carry	Adc - max.	3.0
Resistance	Contact, Initial	Ω - max.	0.100
	Insulation	Ω - min.	10^{10}
Capacitance	Contact	pF - typ.	0.2
Temperature	Operating	°C	-20 to +125
	Storage [5]	°C	-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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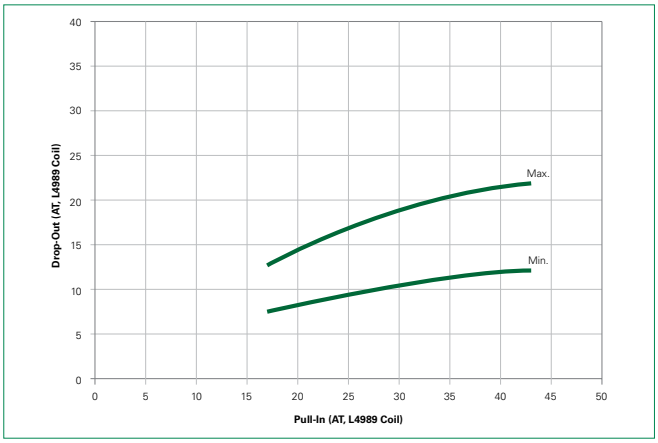
Product Characteristics

Operating Characteristics		
Operate Time [1]		0.75ms - max.
Release Time [1]		0.3ms - max.
Shock [2]	11ms 1/2 sine wave	100G - max.
Vibration [2]	50-2000 Hertz	30G - max.
Resonant Frequency		2.1kHz - typ.
Magnetic Characteristics		
Pull-In Range [3]	Ampere Turns	17-43
Rating Sensitivity [4]	Ampere Turns	22
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

MRPR-20 - 17-28

Series

AT Range
17-43 AT
17-23 AT
17-28 AT
22-33 AT
27-33 AT
27-38 AT
32-38 AT
32-43 AT
37-43 AT

Example:
17-28 AT product is
MRPR-20-17-28

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

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