

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

- 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

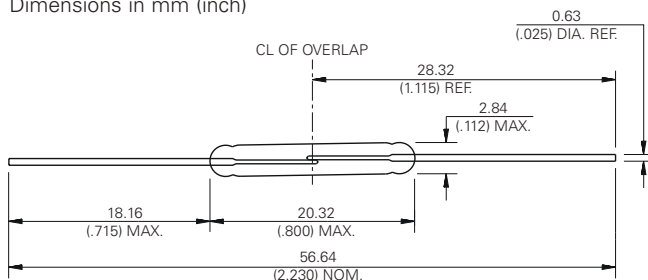
Agency Approvals

| Agency | Agency File Number | Ampere-Turns Range |
|--------|--------------------|--------------------|
| | E47258 | 17-43 AT |

Note: Contact Littelfuse for specific agency approval ratings.

Dimensions

Dimensions in mm (inch)



Benefits

- 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

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 |
| | Breakdown ⁴ | Vac - max. | 265 |
| | | Vdc - min. | 750 |
| Current ³ | Switching ² | Adc - max. | 1.5 |
| | Carry | Aac - max. | 1.1 |
| | | Adc - max. | 3.0 |
| Resistance | Contact, Initial Insulation | Ω - max. | 0.100 |
| | | Ω - min. | 10^{10} |
| Capacitance | Contact | pF - typ. | 0.2 |
| Temperature | Operating Storage ⁵ | $^{\circ}$ C | -20 to +125 |
| | | $^{\circ}$ 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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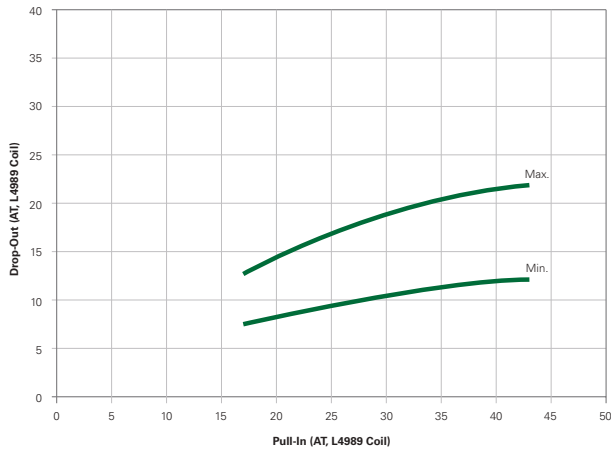
Product Characteristics

| 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:

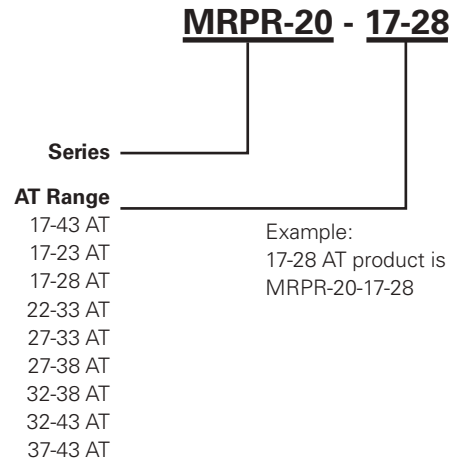
- Operate (including bounce)/Release Time - per EIA/NARM RS-421-A, diode suppressed coil (Coil II).
- Shock and Vibration - per EIA/NARM RS-421-A and MIL-STD-202.
- Pull-In Range - Contact Littelfuse for narrower AT ranges available.
- Rating Sensitivity - The value at which contact ratings and operating 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.

Packaging

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