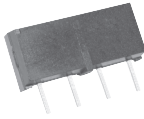


**MICRO SIL  
Reed Relays**

**DESCRIPTION**



MICRO SIL is a single-in-line Reed Relay using only 15.2 x 3.81 mm of board space which is half the standard SIL requirement.

**CHARACTERISTICS**

- Contact Form 1A
- Internal magnetic shield

**APPLICATIONS**

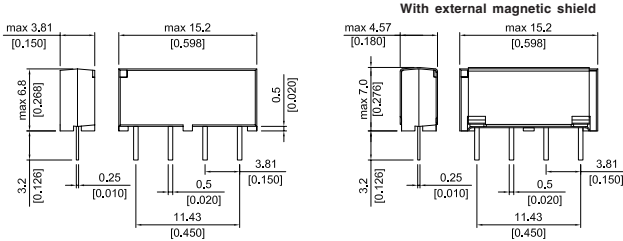
- ATE systems
- Measurement equipment
- Telecommunications
- Security systems

**FEATURES**

- New rugged molded design
- Diode option available
- High coil resistance option

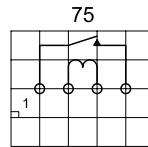
**DIMENSIONS**

All dimensions in mm [inches]



**PIN OUT**

View from top of component  
3.81mm [0.15"] pitch grid



- Notch In case denotes pin #1
- Pin #2 must be positive when Internal diode protection is present

**ORDER INFORMATION**

| SERIES  | NOMINAL VOLTAGE | CONTACT FORM | SWITCH MODEL | PIN OUT | OPTIONS | HIGH RESISTANCE VERSION |
|---------|-----------------|--------------|--------------|---------|---------|-------------------------|
| MS -    | XX              | 1A           | XX -         | 75      | X       | XX*                     |
| OPTIONS | 05, 12          |              | 31, 87       |         | L, D    | HR*                     |

\* HR version is available with the 87 switch only

**OPTIONS**

- L = No diode (with internal shield)
- D = With diode and internal magnetic shield
- HR = High resistance version (5 Volt option only)

**Part Number Example**

MS12 - 1A87 - 75L

12 is the nominal voltage  
87 is the switch model  
L is the option

RELAY DATA

| All data at 20 °C   | Switch Model →<br>Contact Form →                                  | Switch 31<br>Form A                  |            |      | Switch 87<br>Form A                  |                                      |      | Units                     |
|---|---|--------------------------------------|------------|------|--------------------------------------|--------------------------------------|------|---------------------------|
|   |   | Min.                                 | Typ.       | Max. | Min.                                 | Typ.                                 | Max. |                           |
| <b>Contact Ratings</b>  | <b>Conditions</b>   |                                      |            |      |                                      |                                      |      |                           |
| Switching Power   | Any DC combination of V & A not to exceed their individual max.'s |                                      |            | 50   |                                      |                                      | 10   | W                         |
| Switching Voltage   | DC or peak AC   |                                      |            | 1000 |                                      |                                      | 200  | V                         |
| Switching Current   | DC or peak AC   |                                      |            | 2.0  |                                      |                                      | 0.5  | A                         |
| Carry Current   | DC or peak AC   |                                      |            | 3.0  |                                      |                                      | 1.0  | A                         |
| Static Contact Resistance   | w/ 0.5V & 50mA  |                                      |            | 80   |                                      |                                      | 150  | mΩ                        |
| Dynamic Contact Resistance  | Measured w/ 0.5V & 50mA 1.5 ms after closure                      |                                      |            | 200  |                                      |                                      | 200  | mΩ                        |
| Insulation Resistance (100 Volts applied)   | Across contacts<br>Contact to coil                                | 10 <sup>10</sup><br>10 <sup>12</sup> |            |      | 10 <sup>11</sup><br>10 <sup>13</sup> | 10 <sup>12</sup><br>10 <sup>14</sup> |      | Ω                         |
| Breakdown Voltage   | Across contacts<br>Contact to coil                                | 1500<br>2000                         |            |      | 225<br>1500                          |                                      |      | VDC                       |
| Operate Time, incl. Bounce  | Measured w/ 100% overdrive  |                                      |            | 1.0  |                                      |                                      | 0.5  | ms                        |
| Release Time  | No suppression  |                                      |            | 0.7  |                                      |                                      | 0.1  | ms                        |
| Capacitance   | Across contacts<br>Contact to coil                                |                                      | 0.3<br>2.0 |      |                                      | 0.2<br>2.0                           |      | pF                        |
| <b>Life Expectancies</b>  |   |                                      |            |      |                                      |                                      |      |                           |
| Switching 5 Volts@ 10mA   | DC only & <10 pF stray cap.                                       |                                      | 500        |      |                                      | 1000                                 |      | 10 <sup>6</sup><br>Cycles |
| For other load requirements please see our life test section located on page 151. |   |                                      |            |      |                                      |                                      |      |                           |
| <b>Environmental Data</b>   |   |                                      |            |      |                                      |                                      |      |                           |
| Shock Resistance  | 1/2 sine wave duration 11ms                                       |                                      |            | 50   |                                      |                                      | 50   | g                         |
| Vibration Resistance  | From 10 - 2000 Hz   |                                      |            | 20   |                                      |                                      | 20   | g                         |
| Ambient Temperature   | 10 °C/ minute max. allowable                                      | -20                                  |            | 70   | -20                                  |                                      | 70   | °C                        |
| Storage Temperature   | 10 °C/ minute max. allowable                                      | -35                                  |            | 95   | -35                                  |                                      | 95   | °C                        |
| Soldering Temperature   | 5 sec. dwell  |                                      |            | 260  |                                      |                                      | 260  | °C                        |

**MICRO SIL  
Reed Relays**

**COIL DATA**

| CONTACT FORM        | SWITCH MODEL | COIL VOLTAGE |     | COIL RESISTANCE |     |     | PULL-IN VOLTAGE |     | DROP-OUT VOLTAGE |     | NOMINAL COIL POWER |
|---------------------|--------------|--------------|-----|-----------------|-----|-----|-----------------|-----|------------------|-----|--------------------|
|                     |              | VDC          |     | Ω               |     |     | VDC             |     | VDC              |     | mW                 |
| All data at 20 °C * |              |              |     |                 |     |     |                 |     |                  |     |                    |
|                     |              |              |     |                 |     |     |                 |     |                  |     |                    |
|                     |              |              |     |                 |     |     |                 |     |                  |     |                    |
| 1A                  | 31           | 5            | 7.5 | 90              | 100 | 110 | 0.85            | 3.5 | 0.75             | 3.4 | 250                |
|                     |              | 12           | 16  | 315             | 350 | 385 | 1.9             | 8.4 | 1.8              | 8.3 | 410                |
|                     | 87**         | 5            | 7.5 | 250             | 280 | 310 | 0.85            | 3.5 | 0.75             | 3.4 | 90                 |
|                     |              | 5 HR**       | 7.5 | 450             | 500 | 550 | 0.85            | 3.5 | 0.75             | 3.4 | 50                 |
|                     |              | 12           | 16  | 630             | 700 | 770 | 1.9             | 8.4 | 1.8              | 8.3 | 205                |

\* The pull-in / drop-out voltages and coil resistance will change at the rate of 0.4% per °C.  
 \*\* High Resistance version 87 switch only

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