

# UMS Series Reed Relays

- **Features:** Ultra miniature Single-In Line Relay with Internal Magnetic Shield, UL-listed
- **Applications:** PCB & Semiconductor Test Systems, Automated Test Systems, High Density Assembly
- **Markets:** Test & Measurement, Telecommunication, ATE



Part Description: UMS05-1A80-75X

| Nominal Voltage | Contact Quantity & Contact Form | Switch Model | Pin Out | Option |
|-----------------|---------------------------------|--------------|---------|--------|
| 05              | 1A                              | 80           | 75      | L, D   |

| Customer Options                                                                      | Switch Model                        | Unit |
|---------------------------------------------------------------------------------------|-------------------------------------|------|
| Contact Data                                                                          | 80 (A Dry)                          |      |
| Contact Material                                                                      | Rhodium                             |      |
| Rated Power (max.)<br>Any DC combination of V&A not to exceed their individual max.'s | 10                                  | W    |
| Switching Voltage (max.)<br>DC or peak AC                                             | 170                                 | V    |
| Switching Current (max.)<br>DC or peak AC                                             | 0.5                                 | A    |
| Carry Current (max.)<br>DC or peak AC                                                 | 1.0                                 | A    |
| Contact Resistance (max.)<br>@ 0.5V & 10mA                                            | 200                                 | mOhm |
| Breakdown Voltage (min.)<br>According to EN60255-27                                   | 0.21                                | kVDC |
| Operating Time (max.)<br>Including Bounce, Measured w/40% Pull-In Overdrive           | 0.2                                 | ms   |
| Release Time (max.)<br>Measured without Coil Suppression                              | 0.1                                 | ms   |
| Insulation Resistance (typ.)<br>Rh<45%, 100V Test Voltage                             | 10 <sup>10</sup> / 10 <sup>12</sup> | Ohm  |
| Capacitance (typ.)<br>@ 10kHz across open Switch                                      | 0.2 / 0.4                           | pF   |

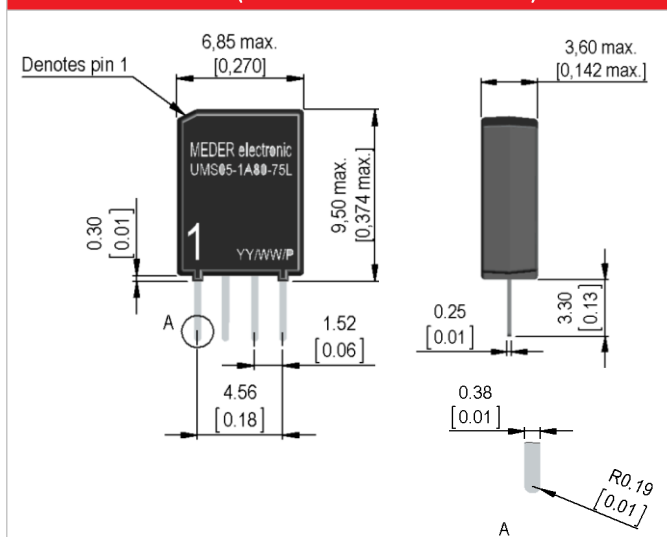
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| Coil Data (at 20°C) |              | Coil Voltage (VDC) |      | Coil Resistance (Ohm) | Pull-In Voltage (VDC) | Drop-Out Voltage (VDC) | Coil Power (mW) |
|---------------------|--------------|--------------------|------|-----------------------|-----------------------|------------------------|-----------------|
| Contact Form        | Switch Model | Nominal            | Max. | Typical (± 10 %)      | Max.                  | Min.                   | Nominal         |
| 1A                  | 80           | 05                 | 7.5  | 400                   | 3.75                  | 0.5                    | 62.5            |

The Pull-In, Drop-Out Voltage and Coil Resistance will change at rate of 0.4% per °K The figures in parentheses are for relays in metal casing.

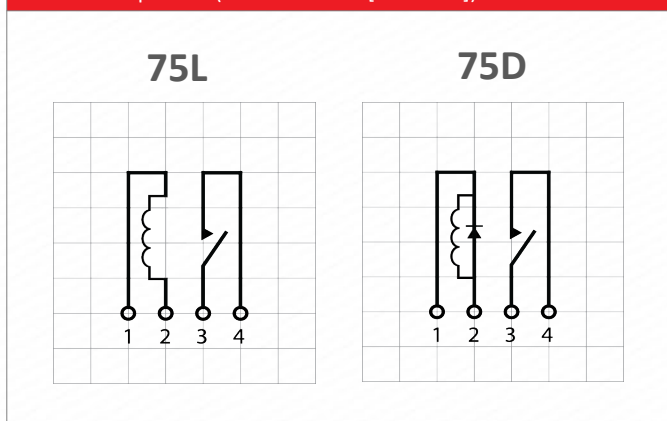
| Relay Data (at 20°C)                                                               |                                     | Unit |
|------------------------------------------------------------------------------------|-------------------------------------|------|
| <b>Dielectric Strength Coil/Contact (min.)</b><br>According to IEC 60255-27        | 1.5                                 | kVDC |
| <b>Insulation Resistance Coil/Contact (min./typ.)</b><br>Rh<45%, 200V Test Voltage | 10 <sup>12</sup> / 10 <sup>13</sup> | Ohm  |
| <b>Capacitance Coil/Contact (typ. / max.)</b><br>@ 10 kHz with Closed Switch       | 0.9 / 1.1                           | pF   |
| <b>Shock Resistance (max.)</b><br>1/2 sine wave duration 11ms                      | 50                                  | g    |
| <b>Vibration Resistance (max.)</b><br>10 – 2,000 Hz                                | 20                                  | g    |
| <b>Operating Temperature (max.)</b><br>Surrounding of the relay's housing          | -20 to 85                           | °C   |
| <b>Storage Temperature (max.)</b><br>Surrounding of the relay's housing            | -35 to 100                          | °C   |
| <b>Soldering Temperature (max.)</b><br>5 seconds max.                              | 260                                 | °C   |
| <b>Washability</b><br>Aqueous rinsing suitable. Proper drying necessary.           | Fully Sealed                        |      |

## Dimensions in mm (Tolerances acc. to ISO 2768-m)



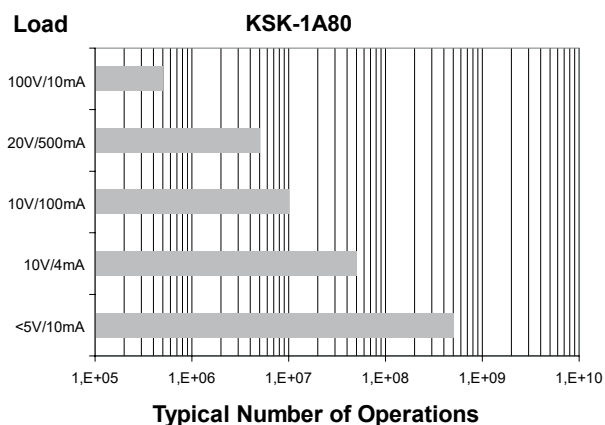
| Glossary Option                                  |                                     |
|--------------------------------------------------|-------------------------------------|
| <b>L</b>                                         | Standard, with Magnetic Shield      |
| <b>D</b>                                         | with Diode, with Magnetic Shield    |
| <b>M</b>                                         | with Magnetic Shield, without Diode |
| <b>Q</b>                                         | with Diode and Magnetic Shield      |
| <b>HR</b>                                        | High Resistance Coil                |
| UMS Relays are available with "L" and "D" Option |                                     |

## Pin Out Top View (Pitch 1.52 mm [0.06 inch])

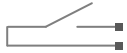


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## Life Test Data (\*Load increase reduces life expectancy of Reed Switches)



## Glossary Contact Form

|        |                                                                  |                                                                                     |
|--------|------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Form A | NO = Normally Open Contacts<br>SPST = Single Pole Single Throw   |  |
| Form B | NC = Normally Closed Contacts<br>SPST = Single Pole Single Throw |  |
| Form C | Changeover<br>SPDT = Single Pole Double Throw                    |  |

UMS Relays are available only in "Form A" configuration

## Handling & Assembly Instructions

- Switching inductive and/or capacitive loads create voltage and/or current peaks, which may damage the relay. Protective circuits need to be used - see our website.
- External magnetic fields and magnetic effects, due to adjacent relays in high density matrices that may influence the relays' electrical characteristics, must be taken into consideration.
- Mechanical shock impacts, e.g. dropping the relays, may cause immediate or post-installation failure.
- Wave soldering: maximum 260°C / 5 seconds.

Please note: All technical specifications on this series datasheet refer to the standard product range. Modifications in the sense of technical progress are reserved. For general information only. For more specific information, please consult the product datasheet, available upon request.

This series datasheet could contain technical inaccuracies or typographical errors. Changes are periodically made to the information herein. These change will be incorporated in future revisions.

For deviating values, most current specifications and products please contact your nearest sales office.