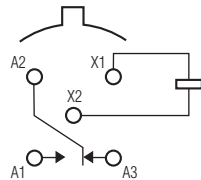


Single Pole, Electrically Held, 1 Amp and Less (Continued)

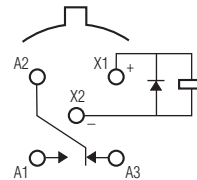
1MS, 1MSD, 1MSDD

1MS
Sensitive TO-5
High Performance Relay
Qualified to
MIL-R-39016/10



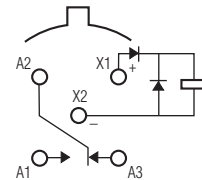
Terminal View

1MSD
Sensitive TO-5
Diode Suppressed
High Performance Relay
Qualified to
MIL-R-39016/25



Terminal View

1MSDD
Sensitive TO-5 Diode
Suppressed/Protected
High Performance Relay
Qualified to
MIL-R-39016/26



Terminal View

Product Facts

- Hermetically sealed
- High shock & vibration ratings
- Spreader pad
- Excellent RF switching

Product Facts

- Suppression diode
- Hermetically sealed
- High shock & vibration ratings
- Spreader pad
- Excellent RF switching

Product Facts

- Suppression & protection diodes
- Hermetically sealed
- High shock & vibration ratings
- Spreader pad
- Excellent RF switching

Electrical Characteristics

Contact Arrangement —
 1 Form C (SPDT)

Contact Material —
 Stationary —
 Gold/platinum/palladium/silver alloy (gold plated)
 Moveable —
 Gold/platinum/palladium/silver alloy (gold plated)

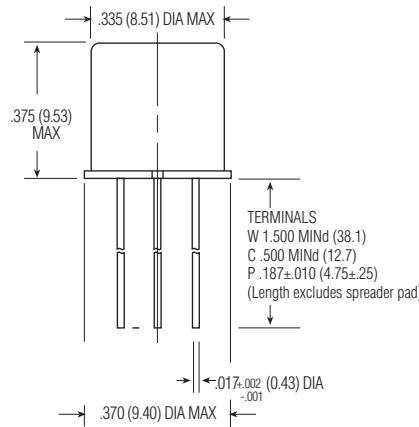
Contact Resistance —
 Before Life — 100 milliohms max. (measured @ 10 mA @ 6 Vdc)
 After Life — 200 milliohms max. (measured @ 1 A @ 28 Vdc)

Mechanical Life Expectancy —
 1 million operations

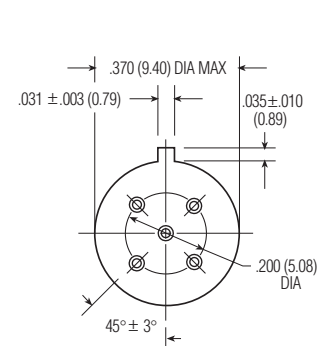
Coil Voltage — 5 to 40 Vdc
Coil Power — 506 mW max. @ 25°C
Duty Cycle — Continuous
Pick-up Voltage — Approximately 50% of nominal coil voltage
Pick-up Sensitivity — 40 mW max. @ 25°C

Contact Ratings

| Contact Load | Type | Operations MINd. |
|----------------------------------|-------------------------------|------------------|
| 1.0 A @ 28 Vdc | Resistive | 100,000 |
| 250 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive (case not grounded) | 100,000 |
| 100 mA @ 115 Vac, 60 Hz & 400 Hz | Resistive | 100,000 |
| 0.2 A @ 28 Vdc | Inductive (0.32 Henry) | 100,000 |
| 0.1 A @ 28 Vdc | Lamp | 100,000 |
| 30 µA @ 50 mVdc | Low Level | 1,000,000 |
| 0.1 A @ 28 Vdc | Intermediate Current | 50,000 |



1MS/1MSD/1MSDD Enclosure



1MS/1MSD/1MSDD Header

Single Pole, Electrically Held, 1 Amp and Less (Continued)

1MS, 1MSD, 1MSDD
(Continued)

Operating Characteristics

Timing —
Operate Time — 4.0 ms max.
Release Time —
1MS — 2.5 ms max.
1MSD/1MSDD — 7.5 ms max.
(suppression diode, suppression/
steering diodes)

Contact Bounce — 1.5 ms max

Dielectric Withstanding Voltage —

Between Open Contacts —
500 Vrms 60 Hz
Between Adjacent Contacts —
500 Vrms 60 Hz
Between Contacts & Coil —
500 Vrms 60 Hz

Insulation Resistance —

10,000 megohms @ 500 Vdc
1,000 megohms @ 500 Vdc
(coil to case @ +125°C)

Environmental Characteristics

Temperature Range —
-65°C to +125°C

Weight —
0.10 oz. (2.84 grms)
0.11 oz. (3.09 grms) with spreader pad
attached

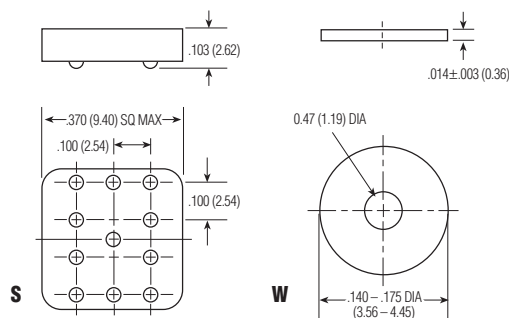
Vibration Resistance —
30 G's, 10 to 3,000 Hz

Shock Resistance —
75 G's, 6 ±1 ms max.

QPL Approval —
MIL-R-39016/10 (J1MS)
MIL-R-39016/25 (J1MSD)
MIL-R-39016/26 (J1MSDD)

Semiconductor Characteristics

Diode —
100 Vdc peak inverse voltage (PIV)
1.0 Vdc max. transient voltage



Spreader & Mounting Pads

Coil Data

| Nom. Coil Voltage (Vdc) | Coil Resistance in Ohms ±10% @ 25°C (Note 1) | Coil Circuit Current mA (Max.) (Note 1&2) | Coil Circuit Current mA (MIND.) (Note 1&2) | Pickup Voltage Vdc (Max.) @ 25°C (Note 2) | Base Turn On Current mA (Max.) @ 25°C | Pickup Voltage Vdc (Max.) @ 125°C (Note 2) | Base Turn On Current mA (Max.) @ 125°C | Drop-Out Voltage Vdc (MIND.) @ 25°C (Note 2) | Drop-Out Voltage Vdc (MIND.) @ -65°C (Note 2) | Nom. Coil Power (mW) @ 25°C | Max. Coil Voltage | Coil Desig. |
|-------------------------|--|---|--|---|---------------------------------------|--|--|--|---|-----------------------------|-------------------|-------------|
| 1MS/1MSD | | | | | | | | | | | | |
| 5.0 | 125 | n/a | n/a | 2.8 | n/a | 3.7 | n/a | 0.23 | 0.15 | 200 | 8.0 | 5 |
| 6.0 | 255 | n/a | n/a | 3.5 | n/a | 4.5 | n/a | 0.28 | 0.18 | 141 | 11.0 | 6 |
| 9.0 | 630 | n/a | n/a | 5.3 | n/a | 6.8 | n/a | 0.54 | 0.35 | 129 | 12.0 | 9 |
| 12.0 | 1,025 | n/a | n/a | 7.0 | n/a | 9.0 | n/a | 0.63 | 0.40 | 140 | 22.0 | 12 |
| 18.0 | 2,300 | n/a | n/a | 10.5 | n/a | 13.5 | n/a | 0.91 | 0.59 | 141 | 24.0 | 18 |
| 26.5 | 4,000 | n/a | n/a | 14.2 | n/a | 18.0 | n/a | 1.37 | 0.89 | 176 | 45.0 | 26 |
| 32.0 | 6,500 | n/a | n/a | 18.7 | n/a | 24.0 | n/a | 1.59 | 1.0 | 158 | 57.0 | 32 |
| 40.0 | 11,000 | n/a | n/a | 23.3 | n/a | 30.0 | n/a | 2.0 | 1.3 | 145 | 75.0 | 40 |
| 1MSDD | | | | | | | | | | | | |
| 5.0 | 100 | 50.0 | 36.3 | 3.5 | n/a | 4.5 | n/a | 0.23 | 0.15 | 250 | 8.0 | 5 |
| 6.0 | 200 | 30.6 | 22.7 | 4.1 | n/a | 5.5 | n/a | 0.28 | 0.18 | 180 | 11.0 | 6 |
| 9.0 | 630 | 15.0 | 11.5 | 6.3 | n/a | 7.8 | n/a | 0.54 | 0.35 | 129 | 16.0 | 9 |
| 12.0 | 1,025 | 12.5 | 9.7 | 8.0 | n/a | 10.0 | n/a | 0.63 | 0.40 | 140 | 22.0 | 12 |
| 18.0 | 2,300 | 8.5 | 6.7 | 11.6 | n/a | 14.5 | n/a | 0.91 | 0.58 | 141 | 33.0 | 18 |
| 26.5 | 4,000 | 7.2 | 5.7 | 15.4 | n/a | 19.0 | n/a | 1.37 | 0.89 | 176 | 45.0 | 26 |
| 32.0 | 6,500 | 5.4 | 4.3 | 17.0 | n/a | 21.0 | n/a | 1.5 | 0.95 | 158 | 57.0 | 32 |
| 40.0 | 11,000 | 4.0 | 3.2 | 22.0 | n/a | 27.0 | n/a | 2.0 | 1.28 | 145 | 75.0 | 40 |

Notes: 1. Coil resistance not directly measurable. Coil current should be within limits shown when tested at nominal voltage at 25°C for 5 seconds max.
2. Set base current at 3 mA to 15 mA during measurements.

Ordering Instructions

Catalog-selected Relays: The catalog number is derived by choosing the proper CODE for each of the relay characteristics in the order in which the codes are listed.

| Specifying a Part Number Example: | Type | Terminal | Diodes | Coils | Spreader/Mounting Pads |
|-----------------------------------|------|----------|--------|-------|------------------------|
| | 1MS | C | D | -26 | S |

* The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.

Mouser Electronics

Authorized Distributor

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