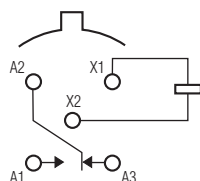


## Single Pole, Electrically Held, 1 Amp and Less (Continued)

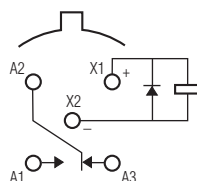
### 1MS, 1MSD, 1MSDD

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



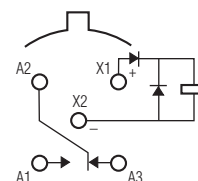
Terminal View

**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

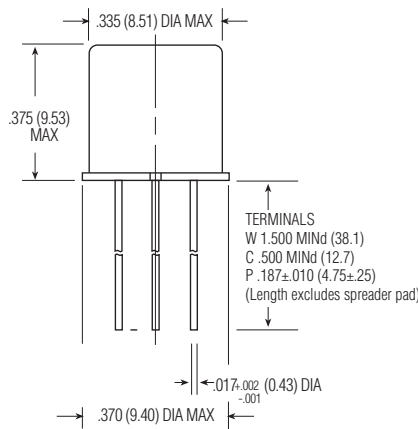
**Duty Cycle** — Continuous

**Pick-up Voltage** — Approximately  
50% of nominal coil voltage

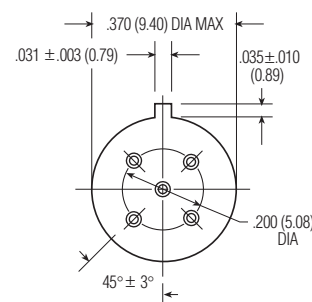
**Pick-up Sensitivity** —  
40 mW max. @ 25°C

#### 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 &amp; 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)

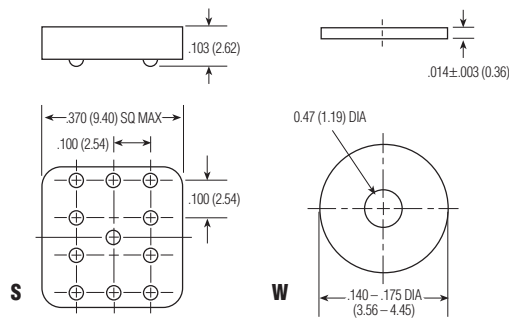
MIL-R-39016/26 (J1MSDD)

#### 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 (Min.) (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 (Min.) @ 25°C (Note 2)	Drop-Out Voltage Vdc (Min.) @ -65°C (Note 2)	Nom. Coil Power (mW) @ 25°C	Max. Coil Voltage	Coil Desig.
<b>1MS/1MSD</b>												
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
<b>1MSDD</b>												
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.