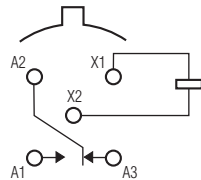


**Single Pole, Electrically Held, 1 Amp and Less** (Continued)

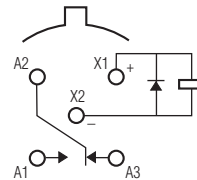
**1MS, 1MSD, 1MSDD**

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



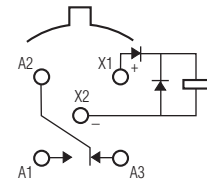
Terminal View

**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

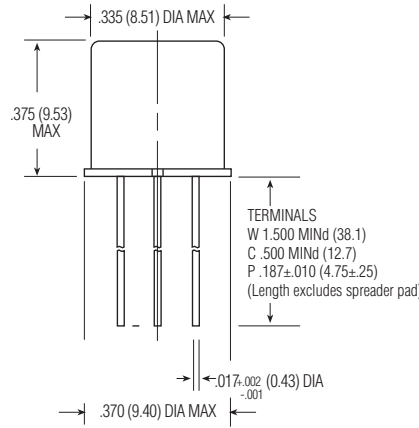
**Coil Voltage** — 5 to 40 Vdc  
**Coil Power** — 506 mW max. @ 25°C  
**Duty Cycle** — Continuous

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

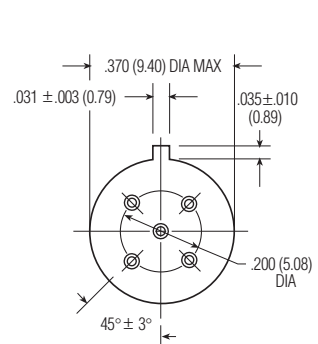
**Pick-up Sensitivity** —  
 40 mW max. @ 25°C

**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

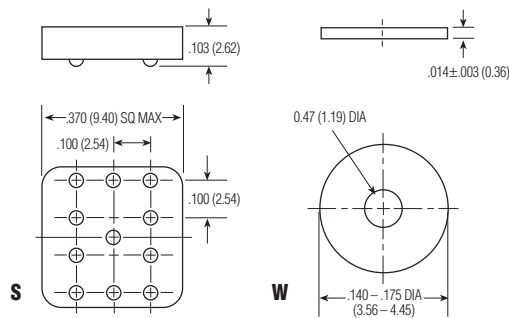
**Vibration Resistance** —  
30 G's, 10 to 3,000 Hz

**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.
<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.