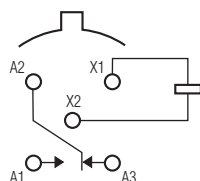


Single Pole, Electrically Held, 1 Amp and Less (Continued)

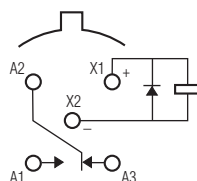
1MS, 1MSD, 1MSDD

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



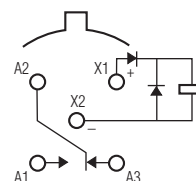
Terminal View

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

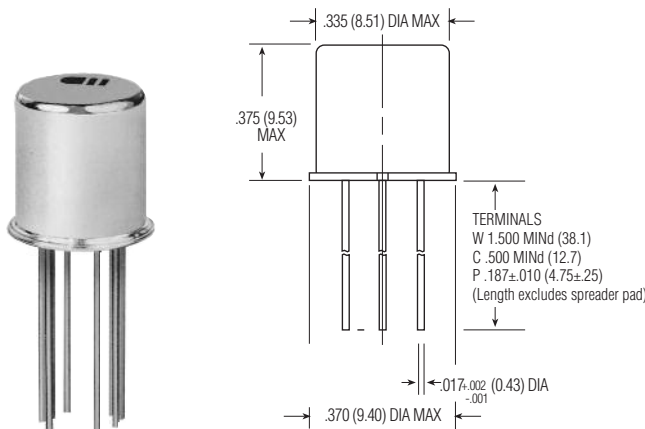
Duty Cycle — Continuous

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

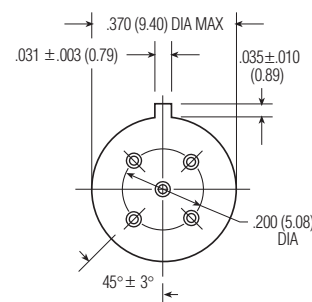
Pick-up Sensitivity —
40 mW max. @ 25°C

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)

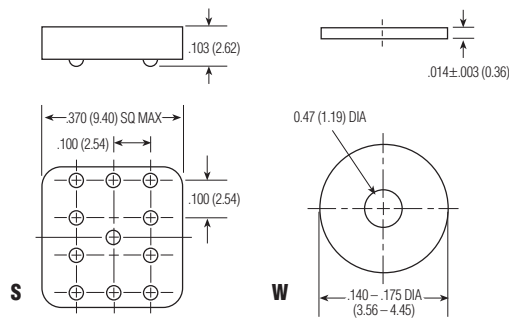
MIL-R-39016/26 (J1MSDD)

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 (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.
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.