

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

MS, MSD, MSDD

MS

Sensitive TO-5 **High Performance Relay** Qualified to MIL-R-39016/11



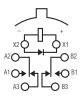
Terminal View

Product Facts

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

MSD

Sensitive TO-5 **Diode Suppressed High Performance Relay** Qualified to MIL-R-39016/16

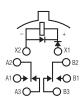


Terminal View

Sensitive TO-5 Diode Suppressed/Protected **High Performance Relay**

Qualified to MIL-R-39016/21

MSDD



Terminal View

Product Facts

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

Product Facts

- Hermetically sealed
- High shock & vibration ratings
- Spreader pads
- **■** Excellent RF switching

Contact Ratings

Contact Load	Туре	Operations Min.
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

Electrical Characteristics Contact Arrangement —

2 Form C (DPDT)

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 48 Vdc

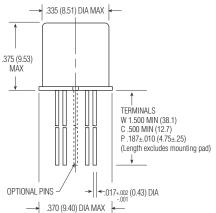
Coil Power — 565 mW max. @ 25°C

Duty Cycle — Continuous

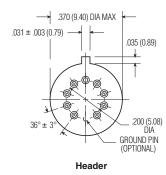
Pick-up Voltage — Approximately 50% of nominal coil voltage

Pick-up Sensitivity 60 mW max. @ 25°C





Enclosure





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

MS, MSD, MSDD (Continued)

Operating Characteristics

Timing -

Operate Time — 4.0 ms max. Release Time -MS — 2.0 ms max. MSD/MSDD — 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 min. @ 500 Vdc 1,000 megohms @ 500 Vdc (coil to case @ +125°C)

Environmental Characteristics Temperature Range —

-65°C to +125°C

Weight -

0.12 oz. (3.40 grms) 0.13 oz. (3.45 grms) with spreader pad attached

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

Shock Resistance -

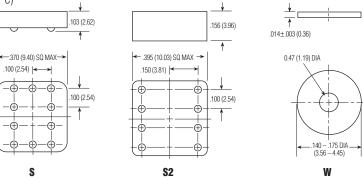
75 G's, 6 ±1 ms max.

QPL Approval -MIL-R-39016/11 (JMS) MIL-R-39016/16 (JMSD) MIL-R-39016/21 (JMSDD)

Semiconductor Characteristics

Diode -

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



Coil Data

Spreader & Mounting Pads

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.
MS/MSD												
5.0	100	n/a	n/a	2.6	n/a	3.5	n/a	0.23	0.12	250	7.5	5
6.0	200	n/a	n/a	3.4	n/a	4.5	n/a	0.28	0.18	180	10.0	6
9.0	400	n/a	n/a	4.85	n/a	6.8	n/a	0.55	0.35	203	15.0	9
12.0	850	n/a	n/a	7.0	n/a	9.0	n/a	0.64	0.41	169	20.0	12
18.0	1,600	n/a	n/a	9.8	n/a	13.5	n/a	0.92	0.59	203	30.0	18
26.5	3,300	n/a	n/a	14.0	n/a	18.0	n/a	1.4	0.89	213	40.0	26
36.0	6,500	n/a	n/a	20.0	n/a	27.0	n/a	1.8	1.25	199	57.0	36
48.0	11,000	n/a	n/a	25.8	n/a	36.0	n/a	2.4	1.60	209	75.0	48
MSDD												
5.0	64	78.1	56.8	2.9	n/a	3.7	n/a	0.8	0.7	391	7.0	5
6.0	125	48.9	36.3	4.0	n/a	4.8	n/a	0.9	0.8	288	10.0	6
9.0	400	23.6	18.1	6.1	n/a	8.0	n/a	1.1	0.9	203	15.0	9
12.0	850	15.0	11.7	7.8	n/a	11.0	n/a	1.3	1.0	169	20.0	12
18.0	1,600	12.2	9.6	11.3	n/a	14.5	n/a	1.5	1.1	203	30.0	18
26.5	3,300	8.8	7.0	15.2	n/a	19.0	n/a	1.7	1.3	213	40.0	26
36.0	6,500	6.1	4.9	21.7	n/a	27.2	n/a	2.3	1.7	199	57.0	36
48.0	11,000	4.8	3.9	27.8	n/a	34.8	n/a	2.8	2.0	209	75.0	48

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:	<u>Type</u>	<u>Terminal</u>	<u>Diodes</u>	Ground Pins	<u>Coils</u>	Spreader/Mounting Pads
	MS	С	D	G	-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.

For additional support numbers

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

TE Connectivity: