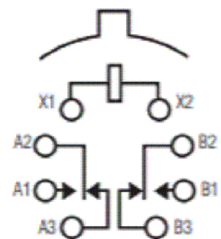


P	LTR	DESCRIPTION	DATE	DWN	APVD
	A	INITIAL DRAWING	12SEP2019	VM	DH

MS, MSD, MSDD

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



Terminal View

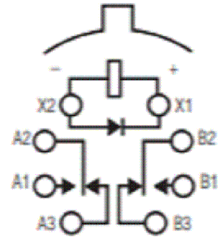
Product Facts

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

Contact Ratings

Contact Load	Type	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

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

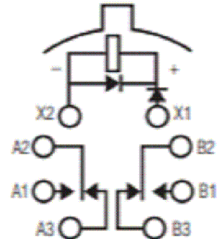


Terminal View

Product Facts

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

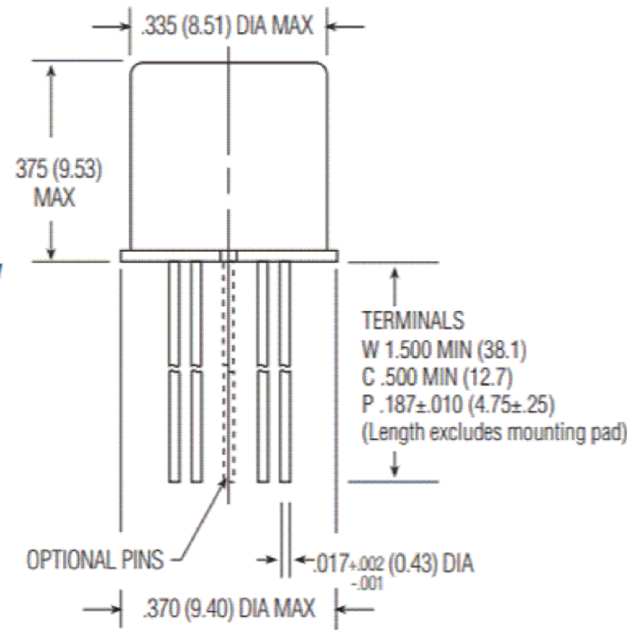
MSDD
Sensitive TO-5 Diode
Suppressed/Protected
High Performance Relay
Qualified to
MIL-R-39016/21



Terminal View

Product Facts

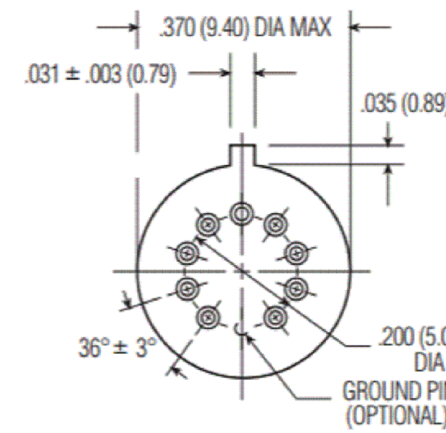
- Suppression & protection diodes
- Hermetically sealed
- High shock & vibration ratings
- Spreader pads
- Excellent RF switching



Enclosure

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)



Header

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

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



THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN VM 12SEP2019	TE Connectivity			
DIMENSIONS: INCHES		CHK RV 12SEP2019				NAME
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APVD DH 12SEP2019	MS18 DOUBLE POLE, ELECTRICALLY HELD RELAYS			
0 PLC ± -		PRODUCT SPEC	-			
1 PLC ± -		APPLICATION SPEC	-			
2 PLC ± -		WEIGHT	SIZE	CAGE CODE	DRAWING NO	RESTRICTED TO
3 PLC ± -			A3	-	MS18-SERIES	-
4 PLC ± -			CUSTOMER DRAWING			
ANGLES ± -			SCALE	SHEET	REV	
FINISH			NTS	1 OF 2	A	

THIS DRAWING IS UNPUBLISHED.

RELEASED FOR PUBLICATION

REVISIONS

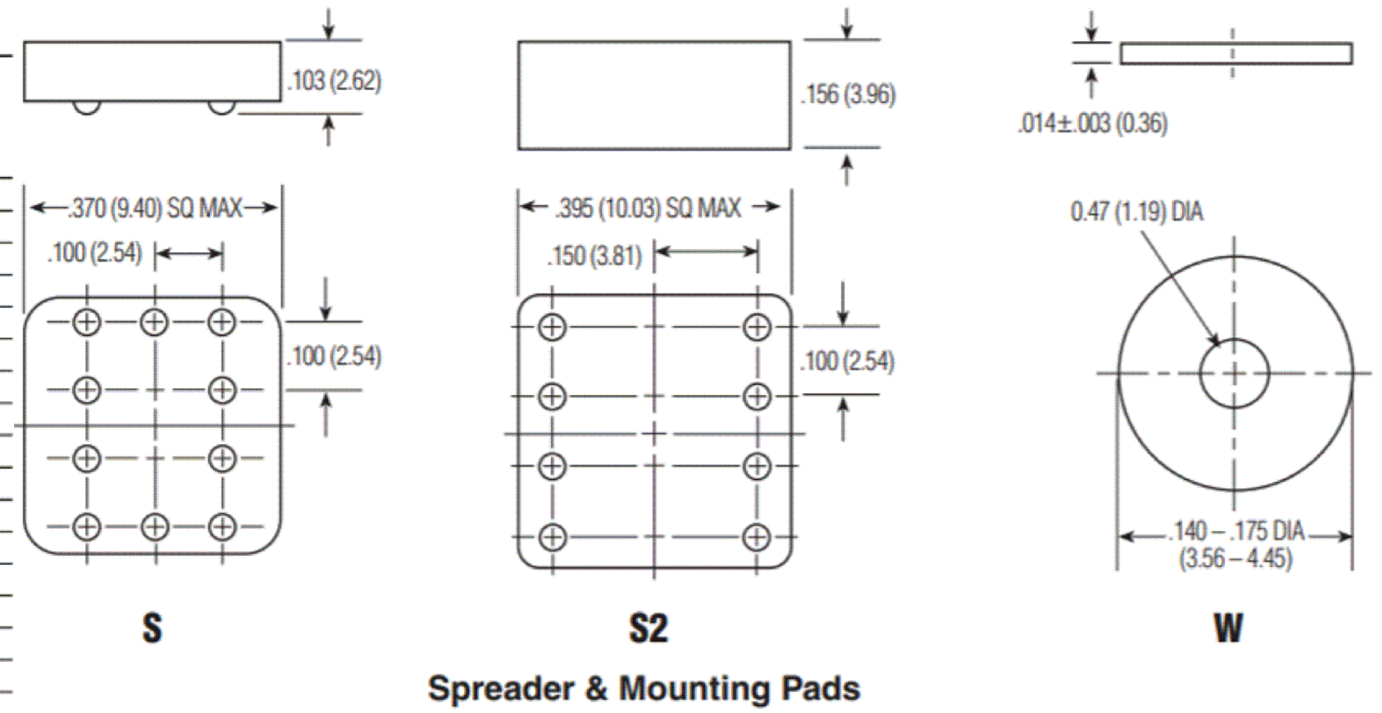
© COPYRIGHT - TE Connectivity Ltd.

ALL RIGHTS RESERVED.

P	LTR	DESCRIPTION	DATE	DWN	APVD
-	-	SEE SHEET 1	-	-	-

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.
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: Type Terminal Diodes Ground Pins Coils Spreader/Mounting Pads
 MS C D G -26 S

ALL DIMENSIONS ARE IN INCHES(MM)

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN VM 12SEP2019	TE Connectivity														
DIMENSIONS: INCHES		CHK RV 12SEP2019															
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APVD DH 12SEP2019	NAME MS18 DOUBLE POLE, ELECTRICALLY HELD RELAYS														
<table border="1"> <tr> <td>0 PLC</td><td>± -</td></tr> <tr> <td>1 PLC</td><td>± -</td></tr> <tr> <td>2 PLC</td><td>± -</td></tr> <tr> <td>3 PLC</td><td>± -</td></tr> <tr> <td>4 PLC</td><td>± -</td></tr> <tr> <td>ANGLES</td><td>± -</td></tr> </table>		0 PLC	± -	1 PLC	± -	2 PLC	± -	3 PLC	± -	4 PLC	± -	ANGLES	± -	PRODUCT SPEC -	SIZE A3		
0 PLC	± -																
1 PLC	± -																
2 PLC	± -																
3 PLC	± -																
4 PLC	± -																
ANGLES	± -																
MATERIAL -		APPLICATION SPEC -	CAGE CODE -	DRAWING NO. MS18-SERIES	RESTRICTED TO -												
FINISH -		WEIGHT -	SCALE NTS SHEET 2 OF 2 REV A														
CUSTOMER DRAWING																	