

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

Microwave Switching,
Hermetically Sealed, DPDTMW3 & MW3HP Models
3 GHz. Switching

Electrical Characteristics

Contact Arrangement —

2 Form C (DPDT)

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 —

10 million operations

Coil Voltages —

5, 12, 18 & 26.5 VDC (MW3)

5, 6, 9, 12, 18 & 26.5 VDC (MW3HP)

Coil Power (mW max. @ 25°C) —

MW3 MW3S MW3HP MW3HPS
675 565 673 563

Duty Cycle — Continuous

Pick-up Voltage —

MW3 — Approx 70% of nominal.

MW3HP — Approx 50% of nominal.

Pick-up Sensitivity (mW max. @
25°C) —MW3 MW3S MW3HP MW3HPS
180 90 146 68

Operating Characteristics

Operate Time (ms max.) —

MW3 MW3S MW3HP MW3HPS
4.0 6.0 2.0 4.0

Release Time (ms max.)

MW3 MW3S MW3HP MW3HPS
3.0 3.0 1.5 2.0

Bounce Time (ms max.)

MW3 MW3S MW3HP MW3HPS
— — 1.5 1.5

Dielectric Withstanding Voltage —

Between Open Contacts,

Between Adjacent Contacts and Between

Contacts and Coil —

MW3 types — 350 Vrms, 60 Hz.

MW3HP types — 500 Vrms, 60 Hz.

Insulation Resistance —

1,000 megohms @ 500 VDC

Environmental Characteristics

Temperature Range —

MW3 types — -55°C to +85°C.

MW3HP types — -65°C to +125°C.

Weight —

MW3, MW3HP: 0.09 oz. (2.55 g)

MW3S, MW3HPS: 0.12 oz. (3.40 g).

Vibration Resistance —

MW3 types — 10 G's, 10-500 Hz.

MW3HP types — 30 G's, 10-3,000 Hz

Shock Resistance —

MW3 types — 30 G's, 6 ± 1 ms.

MW3HP types — 75 G's, 6 ± 1 ms.

Contact Ratings

Contact Load	Type	Operations Min.
1.0A @ 28VDC	Resistive	100,000
200mA @ 28VDC (300mH)*	Inductive	100,000
30μA @ 50mVDC	Low Level	10,000,000

* The inductive rating is only applicable to high performance models (MW3HP and MW3HPS).

Coil Data

MW3 Models

Nominal Coil Voltage (VDC)	Coil Resistance In Ohms ±20% @ 25°C	Pickup Voltage VDC (Max.) @ 25°C	Nominal Coil Power (mW) @ 25°C	Maximum Coil Voltage	Coil Desig.
Standard Coil					
5.0	50	3.6	500	5.8	5
12.0	390	8.4	369	16.0	12
18.0	880	13.0	368	24.0	18
26.5	1,560	17.0	450	32.0	26
Sensitive Coil					
5.0	100	3.5	250	7.5	5
12.0	850	9.0	169	20.0	12
18.0	1,600	13.5	203	30.0	18
26.5	3,300	18.0	213	40.0	26

MW3HP (High Performance) Models

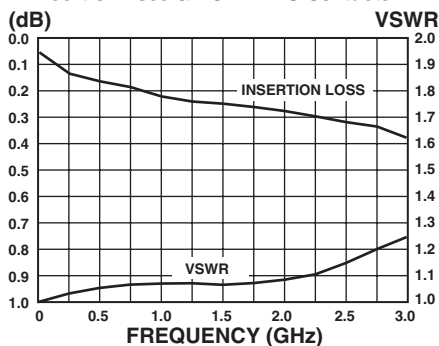
Nominal Coil Voltage (VDC)	Coil Res. in Ohms ±10% @ 25°C	Pickup V VDC (Max.) @ 25°C	Release V VDC (Max.) @ 25°C	Release V VDC (Min.) @ 25°C	Nominal Coil Power (mW) @ 25°C	Maximum Coil Voltage	Coil Desig.
Standard Coil							
5.0	50	2.7	1.4	0.22	500	5.8	5
6.0	98	3.5	2.0	0.28	367	8.0	6
9.0	220	5.3	3.0	0.54	368	12.0	9
12.0	390	7.0	4.0	0.63	369	16.0	12
18.0	880	10.5	6.0	0.91	368	24.0	18
26.5	1,560	14.2	8.0	1.37	450	32.0	26
Sensitive Coil							
5.0	100	2.6	1.4	0.23	250	7.5	5
6.0	200	3.4	2.0	0.28	180	10.0	6
9.0	400	4.85	3.0	0.55	203	15.0	9
12.0	850	7.0	4.0	0.64	169	20.0	12
18.0	1,600	9.8	6.0	0.92	203	30.0	18
26.5	3,300	14.0	8.0	1.4	213	40.0	26

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

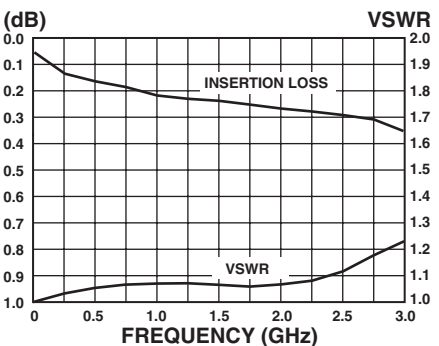
Microwave Switching, Hermetically Sealed, DPDT

MW3 & MW3HP Models, 3 GHz. Switching (Continued)

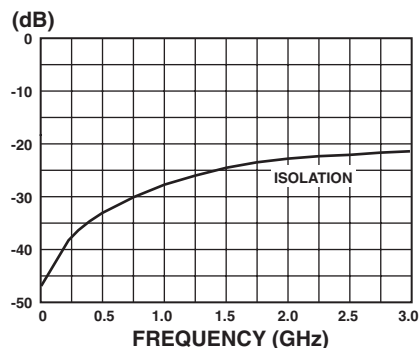
Insertion Loss & VSWR: NO Contacts



Insertion Loss & VSWR: NC Contacts



Isolation



Test Conditions

Test Board — 0.031" double sided copper clad, PTFE based laminate.

Connections — Relay header is soldered to ground plane. Relay terminals are soldered to through holes. SMA connectors are soldered to circuit traces.

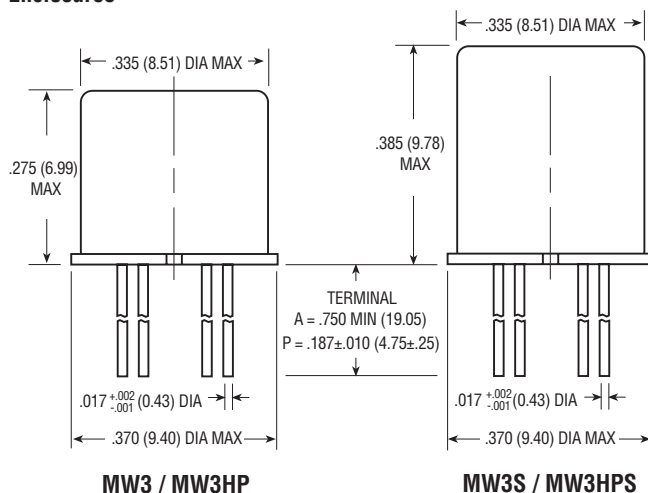
Temperature — Room ambient.

Signal Strength — 0 dBm.

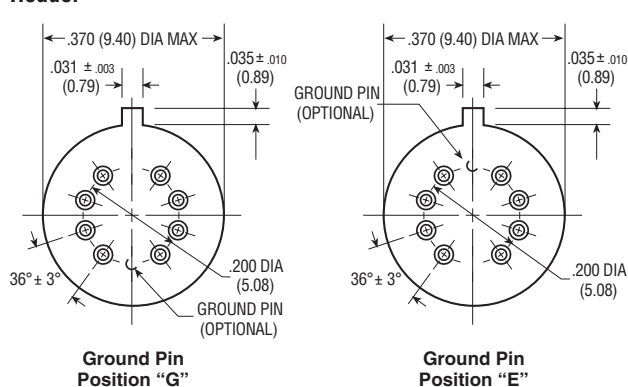
Notes:

1. Unused terminals were terminated with 50 ohm impedance load.
2. All readings are typical.

Enclosures



Header



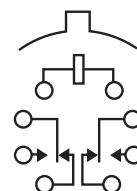
For other ground pin configurations consult factory.

Header and Terminal Finish:
Nickel plated on MW3 & MW3S.
Tin-lead plated on MW3HP & MW3HPS.

Part Numbering System

Typical Part Number		MW3	S	—5	A	G
Series:						
MW3 = 3 GHz. switching relay						
MW3HP = High performance 3 GHz. switching relay						
Coil Sensitivity:						
Leave Blank = Standard Coil		S = Sensitive Coil				
Coil Designator:						
5 = 5VDC		6 = 6VDC†		9 = 9VDC†		
12 = 12VDC		18 = 18VDC		26 = 26.5VDC		
† 6 and 9 volt coil only available on high performance models.						
Terminal Length:						
A = 0.750 in (19.05 mm)		P = 0.187 ± 0.010 in (4.75 ± 0.25 mm)				
Ground Pin Position (see header drawings above):						
G = Opposite locating tab		E = Near locating tab.				
Consult factory for other ground pin configurations.						

Wiring Diagram



Terminal View