# Model Numbering System

***Example: SPDT-0A-18A-D-S9***

**SPDT - 0 A - 18 A - D - S9**

**TYPE**
- SPDT
- TRAN
- SPMT
- MSPDT
- MSPMT
- MTRAN
- Multi-Port Matrix

**CONTROL OPTIONS**

***SPDT / TRAN***

Not specified: Pin Terminal Control
S9: 9Pins D-Sub Control
S15: 15Pins D-Sub Control

***SPMT***

Not specified: D-Sub Control
PIN: Pin Terminal Control

**CONNECTOR**
- 0: SMA
- 1: N
- 2: TNC
- 3: RF PIN
- 4: F
- 5: NC
- 6: CUSTOM

**OPTIONS**
- C: Custom
  - Customer specified requirements
- D: TTL Driver
  - Available for all models
- N: Narrow Body
  - SPDT only
- P: Positive + Common
  - Latching and Normally Open only
- S: Self Cutoff
  - Latching only
- T: Internal Terminations
  - SPDT/SPMT, SMA models only

**ACTUATOR TYPE**
- A: Failsafe without Indicator
- B: Failsafe with Indicator
- C: Latching without Indicator
- D: Latching with Indicator
- E: Normally open without Indicator
- F: Normally open with Indicator

**ACTUATOR VOLTAGE**
- A: 12VDC
- B: 15VDC
- C: 28VDC
- D: 24VDC
- E: 20VDC
- F: 5VDC

**FREQUENCY RANGE**
- 03: DC-3GHz
- 08: DC-8GHz
- 12: DC-12GHz
- 18: DC-18GHz
- 22: DC-22GHz
- 26: DC-26.5GHz


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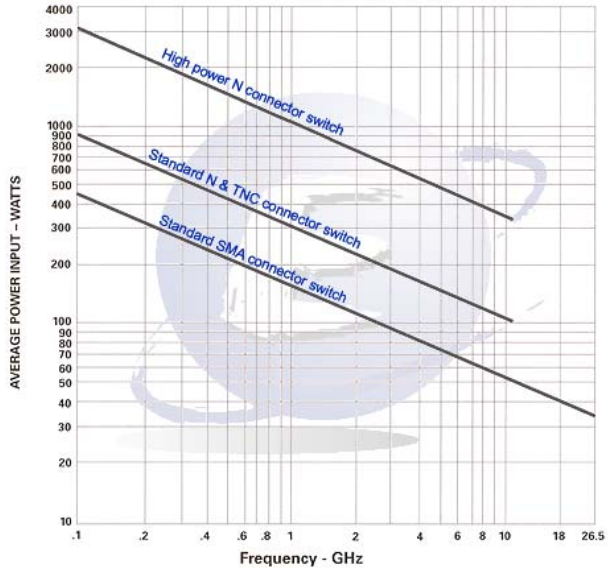
## Power Handling




## Mechanical Specification

| | |
|---|---|
| Switch Type: | Electromechanical, Coaxial |
| RF Contacts: | Break before Make |
| Characteristic Impedance: | 50Ω<br>(75Ω available for SPDT upon request) |
| Temperature Range: | -25°C to +65°C Operating<br>(wider range upon request) |
| Humidity: | Moisture Seal Available |
| Shock: | MIL-STD-202 Method 213, Condition D<br>(500G Non Operating) |
| Vibration: | MIL-STD-202 Method 214, Condition D<br>(10G RMS Non Operating) |
| Operating Life: | 1 Million Cycles |
| MTBF: | MIL-HDBK-217F Fixed, 25°C,<br><1 Cycle per hour |

Note: Power handling measurements of switches are made with the assumption of VSWR 1.10:1

## RF Performance

### SPDT Series

| | DC-6GHz | 6-12GHz | 12-18GHz | 18-26.5GHz |
|---|---|---|---|---|
| VSWR (max.) | 1.25 : 1 | 1.40 : 1 | 1.50 : 1 | 1.80 : 1 |
| Insertion Loss (max.) | 0.20 dB | 0.40 dB | 0.50 dB | 0.70 dB |
| Isolation (min.) | 70 dB | 60 dB | 60 dB | 50 dB |

### SPMT Series

| | DC-6GHz | 6-12GHz | 12-18GHz | 18-26.5GHz |
|---|---|---|---|---|
| VSWR (max.) | 1.25 : 1 | 1.40 : 1 | 1.50 : 1 | 2.00 : 1 |
| Insertion Loss (max.) | 0.20 dB | 0.40 dB | 0.50 dB | 0.80 dB |
| Isolation (min.) | 70 dB | 60 dB | 60 dB | 50 dB |

### TRAN Series

| | DC-6GHz | 6-12GHz | 12-18GHz | 18-26.5GHz |
|---|---|---|---|---|
| VSWR (max.) | 1.25 : 1 | 1.40 : 1 | 1.50 : 1 | 2.00 : 1 |
| Insertion Loss (max.) | 0.20 dB | 0.40 dB | 0.50 dB | 0.80 dB |
| Isolation (min.) | 70 dB | 60 dB | 60 dB | 50 dB |

### MULTI-PORT MATRIX Series

| | DC-6GHz | 6-12GHz | 12-18GHz |
|---|---|---|---|
| VSWR (max.) | 1.25 : 1 | 1.50 : 1 | 1.60 : 1 |
| Insertion Loss (max.) | 0.20 dB | 0.50 dB | 0.60 dB |
| Isolation (min.) | 70 dB | 60 dB | 50 dB |

### SWITCHING MATRIX Series

| | DC-4GHz | 4-8GHz | 8-12GHz | 12-18GHz |
|---|---|---|---|---|
| VSWR (max.) | 1.25 : 1 | 1.40 : 1 | 1.50 : 1 | 1.80 : 1 |
| Insertion Loss (max.) | 0.50 dB | 2.00 dB | 2.50 dB | 3.00 dB |
| Isolation (min.) | 75 dB | 70 dB | 65 dB | 60 dB |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# SINGLE POLE DOUBLE THROW


The Single Pole Double Throw (SPDT) switch is used to switch a microwave signal from a common input to either of the two outputs. Latching and Failsafe switching modes are available.

Other options include position of indicator contacts, standard or narrow body size and choices of connectors. See Model Numbering System for other options.

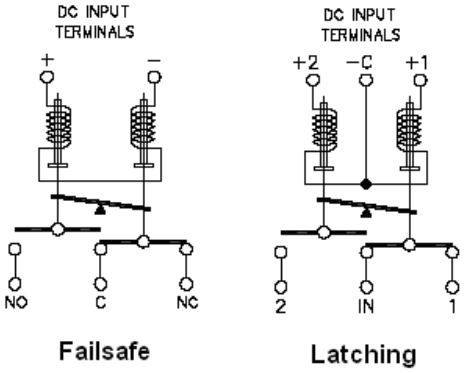
M series SPDT switches with higher temperature range is available for environments where additional shock, vibration, and humidity tolerance is required. Please visit EPX website or contact factory for details.

## Specifications

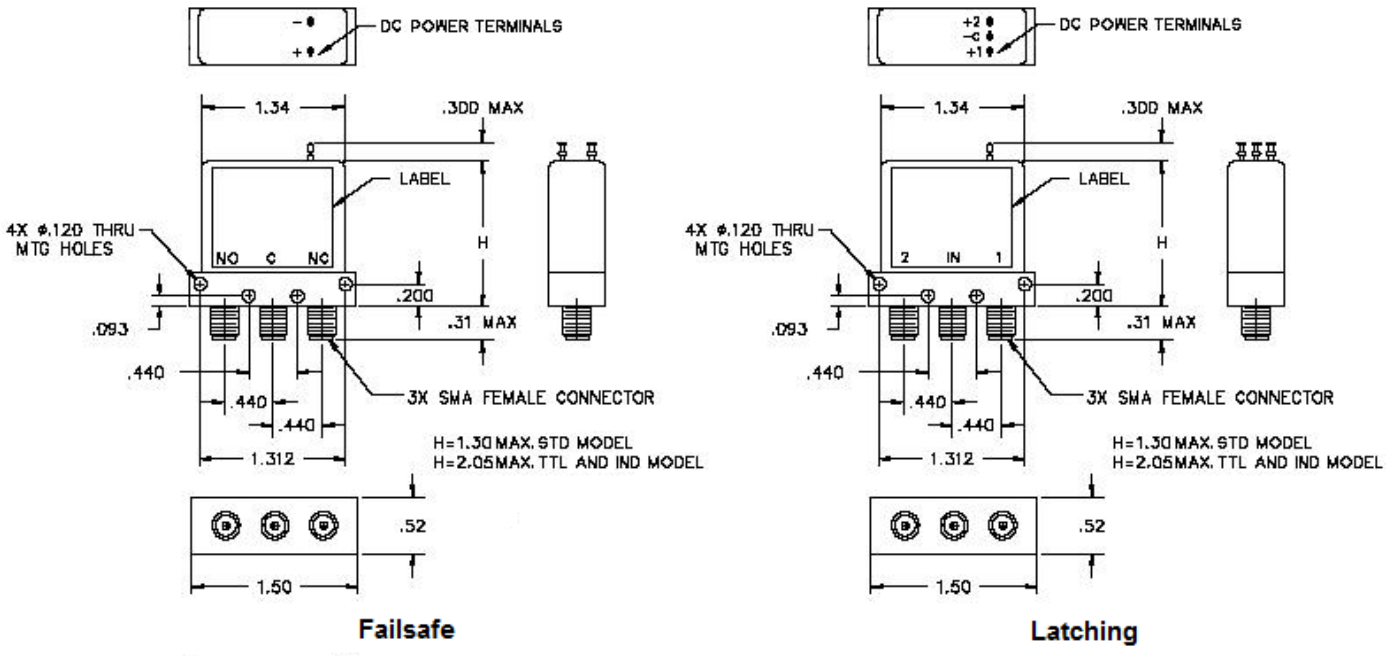
| | | | | |
|---|---|---|---|---|
| Actuator: | Failsafe or Latching | | | |
| Actuator Voltage: | 12±1 VDC | 15±1 VDC | 24±2 VDC | 28±2 VDC |
| Actuator Current *: | 200mA | 160mA | 110mA | 90mA |
| Switching Time: | 20ms (max) | | | |
| MTBF: | 7.0 Million Hours | | | |

* Note: Actuator Current stated is for SPDT, SMA, Failsafe without Indicator/TTL models only.

## Schematic




## Outline



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