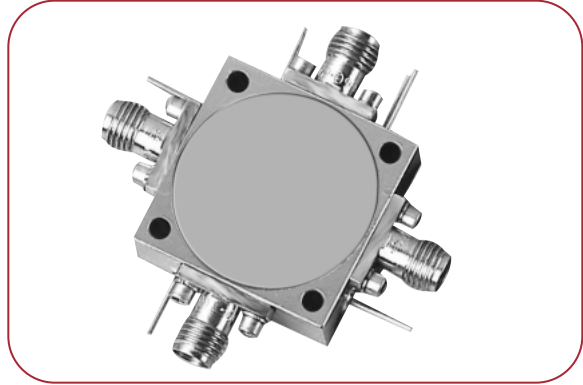


# SINGLE-POLE THREE-THROW SWITCHES

## FEATURES

- Multioctave bands 0.2 to 18 GHz
- Current or TTL control
- Low insertion loss
- High isolation
- Fast and high speed models
- Drop-in models available



Frequency Range (GHz)	Model Number	Insertion Loss (dB, Max.)	Isolation (dB, Min.)	VSWR (Max.)	Type	Rise/Fall Time (ns, Typ.)	On/Off Time (ns, Typ.)	On/Off Time (ns, Max.)	DC Power Positive (mA, Max.)	DC Power Negative (mA, Min.)
<b>STANDARD, MULTIOCTAVE BAND MODELS</b>										
0.2–2	SW3-002020RN1NF	1.6	70	1.6:1	Reflective	20/20	150	180	85	85
	SW3-002020AN1NF	2	75	1.6:1	Absorptive	20/20	150	180	85	85
0.5–2	SW3-005020RN1NF	1.5	80	1.6:1	Reflective	20/20	150	180	85	85
	SW3-005020AN1NF	1.9	75	1.6:1	Absorptive	20/20	150	180	85	85
2–8	SW3-020080RN1NF	1.9	80	1.7:1	Reflective	20/20	150	180	85	85
	SW3-020080AN1NF	2.1	70	1.7:1	Absorptive	20/20	150	180	85	85
4–12	SW3-040120RN1NF	2.4	90	1.7:1	Reflective	20/20	150	180	85	85
	SW3-040120AN1NF	2.5	65	1.7:1	Absorptive	20/20	150	180	85	85
2–18	SW3-020180RN1NF	3	80	2:1	Reflective	20/20	150	180	85	85
	SW3-020180AN1NF	3.2	60	2:1	Absorptive	20/20	150	180	85	85
1–18	SW3-010180RN1NF	3.1	70	2:1	Reflective	20/20	150	180	85	85
	SW3-010180AN1NF	3.4	60	2:1	Absorptive	20/20	150	180	85	85
<b>OPTIMIZED PERFORMANCE MODEL</b>										
1–1.1	SW3-010011AN1NF	1	40	1.2:1	Absorptive	500	700	1000	300	100

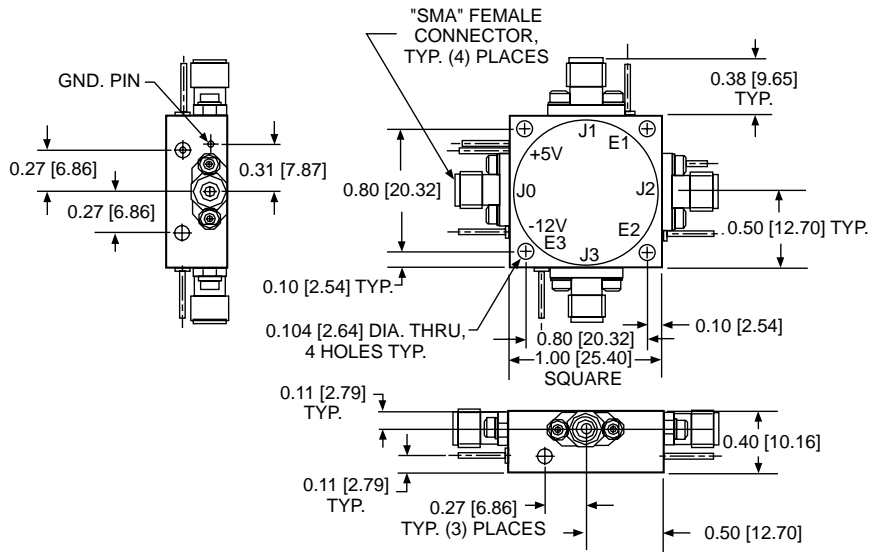
Electrical performance of multioctave models can be optimized over narrower bandwidths, or for a particular parameter. Electrical options include: Lower insertion loss, lower VSWR, higher isolation, high power and flat amplitude response. Mechanical/Control options include: Custom packaging, single supply operation, ultra-fast on/off time and BCD decoder. Consult MITEQ for options.

# SINGLE-POLE THREE-THROW SWITCHES (CONT.)

## TTL CONTROL LOGIC

		Non-inverting Control Input			Inverting Control Input						
		E1	E2	E3	Signal Path	E1	E2	E3	Signal Path		
Non-inverting	Logic 0 (low) (0 to 0.8 V)	Isolation	SP3T	Low	High	High	J0 - J1	High	Low	Low	J0 - J1
	Logic 1 (high) (2.4 to 4.7 V)	Isolation		High	Low	High	J0 - J2	Low	High	Low	J0 - J2
Inverting	Logic 0 (low) (0 to 0.8 V)	Isolation		High	High	Low	J0 - J3	Low	Low	High	J0 - J3
	Logic 1 (high) (2.4 to 4.7 V)	Insertion loss									

## SP3T OUTLINE DRAWING



### GENERAL NOTES:

1. Dimensions shown in brackets [ ] are in millimeters.
2. Unless specified, all connectors are type SMA female field replaceable. SMA male also available, see ordering options.
3. Tolerance as follows:  
 .xx = ±0.01 [xx = ±0.25]  
 .xxx = ±0.005 [xxx = ±0.13]



**MITEQ**

# SP3T SWITCH ORDERING INFORMATION

To order a switch, please include the model number derived from the following table. If requesting a quotation for a switch not listed in this catalog, please consult MITEQ. Include any additional specifications that are not listed.

	<b>SW</b>	<b>3</b>	<b>-</b>	<b>020</b>	<b>180</b>	<b>A</b>	<b>N</b>	<b>1</b>	<b>N</b>	<b>F</b>
<b>SWITCH</b> _____										
<b>Number of throw(s)</b> _____										
<b>Frequency (100's of MHz)</b>										
Lower frequency _____										
Upper frequency _____										
<b>Type</b> _____										
Absorptive .....	<b>A</b>									
Reflective .....	<b>R</b>									
<b>Logic</b> _____										
Non-inverting .....	<b>N</b>									
Inverting .....	<b>I</b>									
No driver .....	<b>X</b> (See Note 1)									
<b>Power Supply</b> _____										
+5 V, -12 V .....	<b>1</b>									
+5 V, -5 V .....	<b>2</b> (See Note 2)									
+5 V, -15 V .....	<b>3</b>									
+12 V, -12 V .....	<b>4</b>									
+15 V, -15 V .....	<b>5</b>									
No driver .....	<b>X</b>									
<b>Hermeticity</b> _____										
Non-hermetic .....	<b>N</b>									
Hermetic .....	<b>H</b>									
<b>Connectors</b> _____										
SMA-Female .....	<b>F</b>									
SMA-Male .....	<b>M</b>									

Note 1: For "no driver" option, unit is current controlled through logic control pin, -20 mA for low loss condition and +20 mA for isolation state. Switching speeds are not measured on driverless units.  
 Note 2: This option has 0.2 dB higher insertion loss, on/off time is 150 ns maximum and rise/fall time is 30 ns typical.

**AVAILABLE OPTIONS**

- Add suffix AM ..... Amplitude matching port-to-port
- Add suffix PM ..... Phase matching port-to-port
- Add suffix VL1 ..... Common port video filter
- Add suffix VL2 ..... Output port(s) video filter
- Add suffix VL3 ..... Both common port and output port(s) video filter
- Add suffix HP ..... Higher power (alternate package configurations)

Example:

The above illustrated part number SW3-020180AN1NF is for the following:

Switch SP3T
2 to 18 GHz
Absorptive
Non-inverting
+5 V, -12 V
Non-hermetic
SMA-F connectors

Consult MITEQ for additional options.  
 When additional options are ordered, MITEQ will add a 4 digit number (-SXXXX) suffix to the part number.