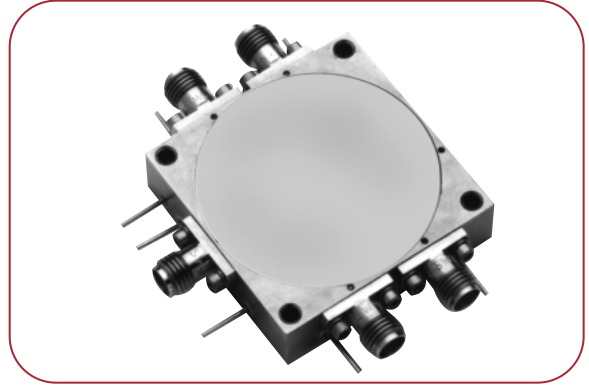


## SINGLE-POLE FOUR-THROW SWITCHES

### 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	SW4-002020RN1NF	1.7	60	1.7:1	Reflective	20/20	150	180	110	110
	SW4-002020AN1NF	2.1	65	1.7:1	Absorptive	20/20	150	180	110	110
0.5–2	SW4-005020RN1NF	1.6	65	1.7:1	Reflective	20/20	150	180	110	110
	SW4-005020AN1NF	2	65	1.7:1	Absorptive	20/20	150	180	110	110
2–8	SW4-020080RN1NF	2	65	1.8:1	Reflective	20/20	150	180	110	110
	SW4-020080AN1NF	2.3	65	1.8:1	Absorptive	20/20	150	180	110	110
4–12	SW4-040120RN1NF	2.6	65	1.8:1	Reflective	20/20	150	180	110	110
	SW4-040120AN1NF	2.7	65	1.8:1	Absorptive	20/20	150	180	110	110
2–18	SW4-020180RN1NF	3.1	60	2:1	Reflective	20/20	150	180	110	110
	SW4-020180AN1NF	3.4	60	2:1	Absorptive	20/20	150	180	110	110
1–18	SW4-010180RN1NF	3.3	60	2:1	Reflective	20/20	150	180	110	110
	SW4-010180AN1NF	3.6	60	2:1	Absorptive	20/20	150	180	110	110
<b>OPTIMIZED PERFORMANCE MODELS</b>										
0.1–10	SW4-001100AN1NF	3	60	2:1	Absorptive	30/30	150	200	110	110
2–18	SW4-020180AN1NF	3	45	2:1	Absorptive	20/20	150	200	110	110
3–9	SW4-030090RN1NF	2	60	1.8:1	Reflective	35/35	150	500	100	110
9–10.5	SW4-090105AN1NF	2.5	60	1.8:1	Absorptive	40/40	110	150	160	100
1.2–1.96	SW4-012019AI3NF	1.5	90	1.3:1	Absorptive	50/50	90	100	100	75

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.

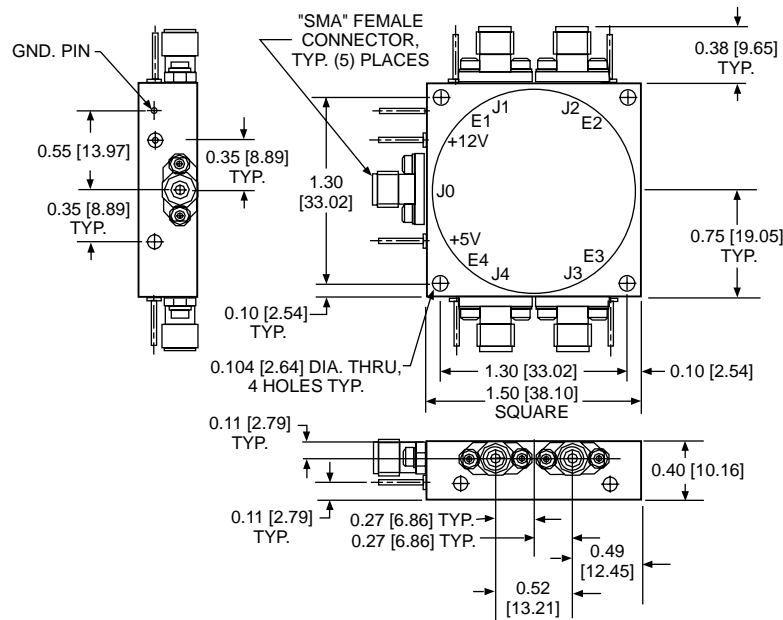
# SINGLE-POLE FOUR-THROW SWITCHES (CONT.)

## TTL CONTROL LOGIC

Non-inverting	Logic 0 (low) (0 to 0.8 V)	Insertion loss
	Logic 1 (high) (2.4 to 4.7 V)	Isolation
Inverting	Logic 0 (low) (0 to 0.8 V)	Isolation
	Logic 1 (high) (2.4 to 4.7 V)	Insertion loss

SP4T	Non-inverting Control Input				Signal Path	Inverting Control Input				Signal Path
	E1	E2	E3	E4		E1	E2	E3	E4	
	Low	High	High	High	J0 - J1	High	Low	Low	Low	J0 - J1
	High	Low	High	High	J0 - J2	Low	High	Low	Low	J0 - J2
	High	High	Low	High	J0 - J3	Low	Low	High	Low	J0 - J3
	High	High	High	Low	J0 - J4	Low	Low	Low	High	J0 - J4

## SP4T OUTLINE DRAWING



### GENERAL NOTES:

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



**MITEQ**

## SP4T 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.

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

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 SW4-020180AN1NF is for the following:

- Switch SP4T
- 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.



**MITEQ**

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