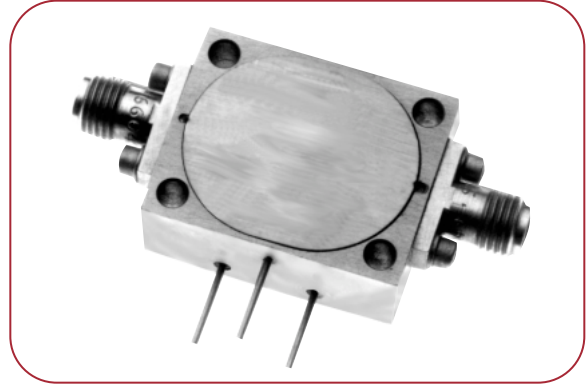


# SINGLE-POLE SINGLE-THROW SWITCHES

## FEATURES

- Multioctave bands 0.2 to 18 GHz
- Current or TTL control
- Low insertion loss
- High isolation
- Ultra high speed models (5 ns) available
- 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	SW1-002020RN1NF	1.7	70	1.6:1	Reflective	10/10	20	35	35	70
	SW1-002020AN1NF	1.8	75	1.6:1	Absorptive	10/10	20	35	35	70
0.5–2	SW1-005020RN1NF	1.5	80	1.6:1	Reflective	10/10	20	35	35	70
	SW1-005020AN1NF	1.7	75	1.6:1	Absorptive	10/10	20	35	35	70
2–8	SW1-020080RN1NF	2	80	1.7:1	Reflective	10/10	20	35	35	70
	SW1-020080AN1NF	2.2	70	1.7:1	Absorptive	10/10	20	35	35	70
4–12	SW1-040120RN1NF	2.2	80	1.7:1	Reflective	10/10	20	35	35	70
	SW1-040120AN1NF	2.6	65	1.7:1	Absorptive	10/10	20	35	35	70
2–18	SW1-020180RN1NF	3	80	2:1	Reflective	10/10	20	35	35	70
	SW1-020180AN1NF	3	60	2:1	Absorptive	10/10	20	35	35	70
1–18	SW1-010180RN1NF	3	70	2:1	Reflective	10/10	20	35	35	70
	SW1-010180AN1NF	3.2	60	2:1	Absorptive	10/10	20	35	35	70
<b>OPTIMIZED PERFORMANCE MODELS</b>										
0.8–18	SW1-008180RN1NF	4	70	2:1	Reflective	5	35	40	35	35
0.1–20	SW1-001200RN1NF	5	80	2:1	Reflective	10	35	40	35	35
0.5–2	SW1-005020AN1NF	1.8	75	1.6:1	Absorptive	8	35	40	35	35
0.5–18	SW1-005180RN1NF	3	70	2:1	Reflective	10	35	40	35	70
2–2.2	SW1-020022RN1NF	1	40	1.7:1	Reflective	20	35	40	70	70
2–8	SW1-020080AN1NF	2	55	1.7:1	Absorptive	5	35	40	35	35
3–3.4	SW1-030034AN1NF	1	60	1.5:1	Absorptive	10	35	40	35	70
3–9	SW1-030090RN1NF	1.7	60	1.7:1	Reflective	10	35	40	35	70
3.5–4.5	SW1-035045AN1NF	2	80	1.7:1	Absorptive	20	35	40	60	60
9–9.2	SW1-090092RN1NF	1	70	1.7:1	Reflective	20	35	40	35	70
9.1–9.7	SW1-091097AI2NF	2.6	65	1.7:1	Absorptive	10	30	35	35	70

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, and ultra-fast on/off time. Consult MITEQ for options.

\*For reflective models, VSWR is not specified in the "Off" state. For absorptive models, VSWR in the "Off" state is defined for port J2 only.

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

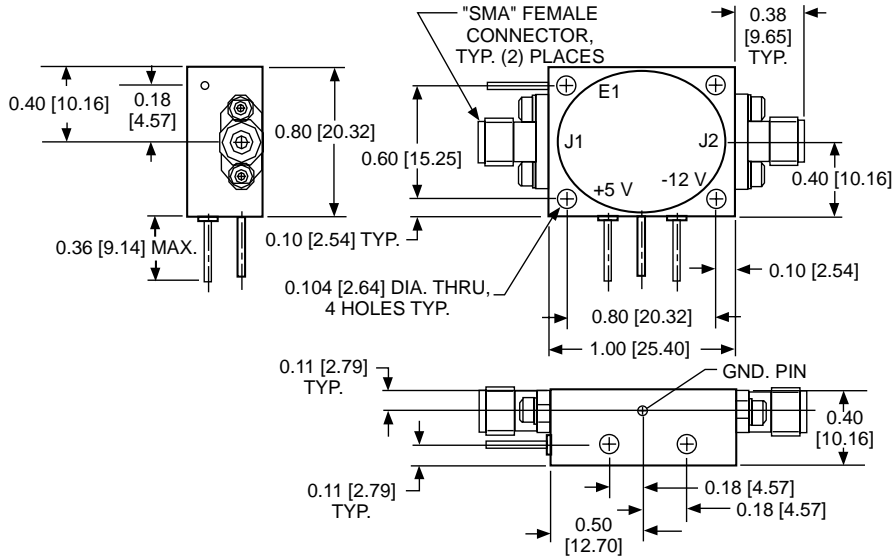
## TTL CONTROL LOGIC

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

SP1T	Non-inverting	Control Input	Signal Path
		E1	J1 – J2
	Low		I. loss
	High		Isolation

Inverting	Control Input	Signal Path
	E1	J1 – J2
	Low	Isolation
	High	I. loss

## SPST 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 =  $\pm 0.01$  [.xx =  $\pm 0.25$ ]  
 .xxx =  $\pm 0.005$  [.xxx =  $\pm 0.13$ ]

## SP1T 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>1</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 .....									<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 50 ns maximum and rise/fall time is 30 ns typical.

### AVAILABLE OPTIONS

- Add suffix FS..... Ultra-fast switching (SP1T Reflective only with power supply Option 1)
- 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 SW1-020180AN1NF is for the following:

Switch SP1T
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.

