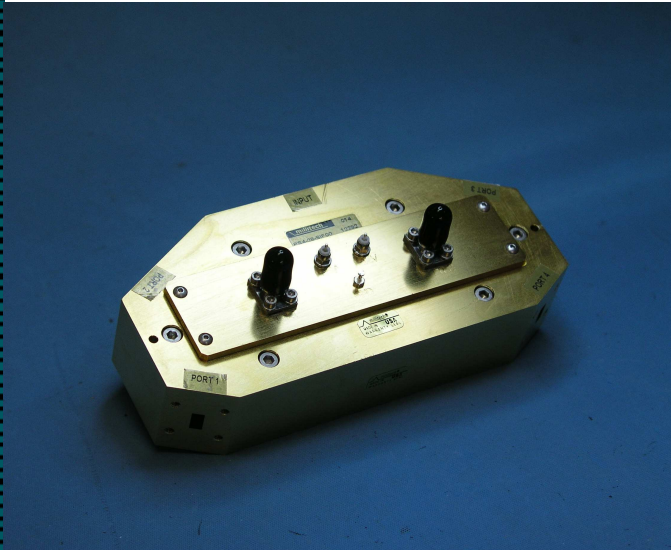


SERIES PS3 / PS4

MULTI-THROW PIN SWITCHES



FEATURES:

- Low insertion loss
- Versatile configuration
- Custom configurations available

APPLICATIONS:

- Antenna beam switching
- Switch matrix
- Special sensors
- Instruments

DESCRIPTION

Millitech series PS3 and PS4 are multi-throw PIN switches or PIN switch matrices for 18 to 110 GHz applications. Standard products and configurations are offered for three and four-throw switches in a single integral housing for most waveguide bands. Higher level switching arrangements can be designed in single, compact housing without cascading individual SPDT or other switches. Integral drivers for the switches can be incorporated in the housing to minimize the overall size. Logic and switching schemes can be tailored to fit customer interface requirements.

Typical insertion loss per stage of switching ranges from 1.0 dB at 18 GHz to 2.70 dB at 110 GHz. Standard low loss switches have switching time of 150 ns and 20 ns for fall and rise time, respectively. A higher speed version of these switches is offered with slightly greater insertion loss. Switching time for the high speed version is typically 2 ns.

Millitech also offers series PSP single-pole, single-throw (SPST) switches, series PDT single-pole, double-throw (SPDT) switches, and series PSH high speed switches.

ELECTRICAL SPECIFICATIONS

Frequency band and range (GHz)	Ka 26.5-40	V 50-75	E 60-90	W 75-110		
Single-Pole Three-Throw (SP3T) PIN Switches						
Model Number	PS3-28	PS3-15	PS3-12	PS3-10		
Insertion loss (dB) (typ)	2.4	2.5	2.5	2.7		
Isolation (dB) (typ)*1	20	20	20	18		
Bandwidth (GHz) (max)*2	10	6	6	4		
Switching speed (ns) (typ)*3	Rise time (10 to 90% RF)	20	20	20		
	Fall time (90 to 10% RF)	300	300	300		
Power handling (CW/peak, W) (max)	0.5/10	0.5/10	0.5/10	0.5/10		
DC bias input (V/mA)	±5/50	±5/50	±5/50	±5/50		
Single-Pole Four – Throw (SP4T) PIN Switches						
	Ka 26.5-40	Q 33-50	U 40-60			
Model Number	PS4-28	PS4-22	PS4-19			
Insertion loss (dB) (typ)	2.4	2.4	2.4			
Isolation (dB) typ)	20	20	20			
Bandwidth (GHz) (max)*2	10	10	10			
Switching speed (ns) (typ)*1	Rise time, 10 to 90% RF	20	20	20		
	Fall time, 90 to 10% RF	300	300	300		
Power handling (CW/peak, W) (max)	0.5/10	0.5/10	0.5/10			
DC bias input (V/mA)	±5/50	±5/50	±5/50			

*1 - Higher isolation possible with increase in insertion loss.

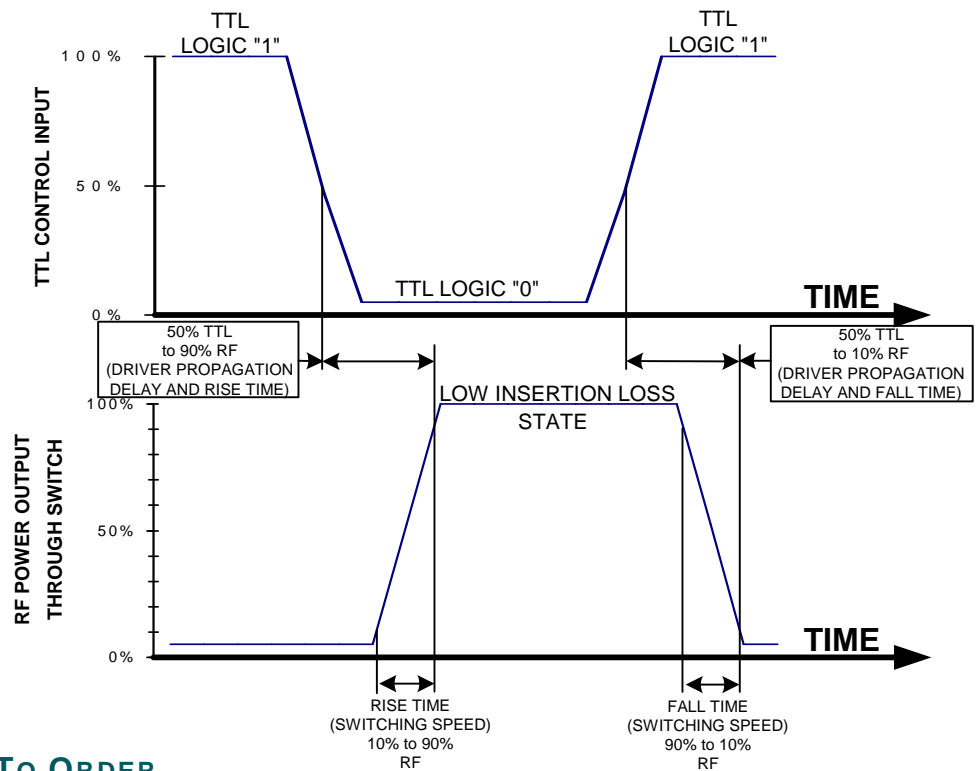
*2 – Maximum bandwidth offered. Superior performance for narrower bandwidth.

*3 – Switching speed is driver dependent. See figure1 below for explanation of switching speeds.

MECHANICAL SPECIFICATIONS

Model Number	PS3-28	PS3-15	PS3-12	PS3-10
Flange MIL.F-3922	/68-002	/67B-008	/67B-009	/67B-010
Model Number	PS4-28	PS4-22	PS4-19	
Flange MIL.F-3922	/54-003*	/67B-006	/67B-007	

*With #4-40 threaded holes.

Figure 1 - Switching Speed and Driver Propagation Delay Measurement


HOW TO ORDER

Specify Model Number* PS3 or PS4-XX-ABCØØ	
XX = Waveguide Band	WR – number
A = Flange Type	R – round (WR-22 through WR-10 only) S – square (WR-42 and WR-28 only)
B = Driver	I – internal driver W – without driver
C = Bandwidth	N – narrowband*
Ø = Options	N – nonstandard (please specify requirements)
*Please specify frequency range when ordering.	

Note: Please specify the truth table.