

The S5 series of single pole, five throw PIN diode switches span the frequency range of 10MHz to 18GHz and are available with absorptive or reflective inputs. The switches are available in a wide variety of standard frequency ranges from cost-effective narrowband to high-performance broadband. Each switch incorporates a TTL-compatible driver for convenient system integration and operates from +5V and -12V to -18V DC power supplies. All switches incorporate DC blocks at the RF ports. Standard screened switches incorporate epoxy sealed lids and undergo a stringent yet cost effective screening cycle. The switches are also available with hermetic seal and high-rel screening for mil and space applications.



### Applications:

- EW Systems
- Communications Systems
- Antenna Selectors
- Test Equipment
- Electronic Simulators
- Filter Selectors

Frequency Range (GHz)	REFLECTIVE SWITCHES				ABSORPTIVE SWITCHES				Switching	
	Part Number	Insertion Loss (dB max)	VSWR (max)	Isolation (dB min)	Part Number	Insertion Loss (dB max)	VSWR (max)	Isolation (dB min)	Speed (nsec max)	MAX RF (W CW)
0.01 – 0.1	S5H1R	1.1	1.5	75	S5H1	1.2	1.5	80	250	1
0.01 – 0.5	S5H2R	1.2	1.5	75	S5H2	1.3	1.5	80	250	1
0.01 – 1	S5H3R	1.5	1.5	75	S5H3	1.6	1.5	80	250	1
0.01 – 2	S5H4R	2.1	1.6	75	S5H4	2.2	1.6	80	250	1
0.01 – 4	S5H5R	2.9	1.8	75	S5H5	3.0	1.8	80	250	1
0.1 – 0.5	S5V1R	1.2	1.5	80	S5V1	1.3	1.5	80	250	1
0.1 – 1	S5V2R	1.5	1.5	80	S5V2	1.6	1.5	80	250	1
0.1 – 2	S5V3R	2.1	1.6	80	S5V3	2.2	1.6	80	250	1
0.1 – 4	S5V4R	2.9	1.8	75	S5V4	3.0	1.8	80	250	1
0.1 – 8	S5V5R	3.6	2.0	70	S5V5	3.6	2.0	75	250	1
0.1 – 10	S5V6R	3.9	2.0	70	S5V6	4.0	2.0	75	250	1
0.5 – 1	S5U1R	1.3	1.5	80	S5U1	1.4	1.5	80	100	1
0.5 – 2	S5U2R	1.7	1.6	80	S5U2	1.8	1.6	80	100	1
0.5 – 4	S5U3R	2.3	1.8	75	S5U3	2.4	1.8	80	100	1
0.5 – 6	S5U4R	2.6	1.9	70	S5U4	2.8	1.9	75	100	1
0.5 – 12	S5U5R	3.0	2.0	65	S5U5	3.2	2.0	70	100	1
0.5 – 18	S5U6R	3.6	2.0	60	S5U6	3.8	2.0	65	100	0.5
1 – 2	S5L1R	1.2	1.5	80	S5L1	1.3	1.5	85	100	1
1 – 4	S5L2R	1.5	1.6	80	S5L2	1.6	1.6	85	100	1
1 – 8	S5L3R	2.2	1.8	75	S5L3	2.3	1.8	80	100	1
1 – 10	S5L4R	2.3	2.0	70	S5L4	2.4	2.0	75	100	0.5
1 – 12	S5L5R	2.7	2.0	65	S5L5	2.8	2.0	70	100	0.5
1 – 14	S5L6R	3.0	2.0	65	S5L6	3.2	2.0	70	100	0.5
1 – 18	S5L7R	3.5	2.0	60	S5L7	3.9	2.0	65	100	0.5
2 – 4	S5S1R	1.4	1.6	70	S5S1	1.5	1.6	75	100	1
2 – 6	S5S2R	1.7	1.7	70	S5S2	1.8	1.7	75	100	1
2 – 8	S5S3R	2.1	1.8	70	S5S3	2.3	1.8	75	100	1
2 – 10	S5S4R	2.2	1.8	65	S5S4	2.4	1.8	70	100	0.5
2 – 12	S5S5R	2.7	1.9	65	S5S5	2.8	1.9	70	100	0.5
2 – 16	S5S6R	3.3	2.0	60	S5S6	3.5	2.0	65	100	0.5
2 – 18	S5S7R	3.5	2.0	60	S5S7	3.9	2.0	65	100	0.5
4 – 8	S5C1R	2.0	1.6	70	S5C1	2.3	1.6	75	100	1
4 – 10	S5C2R	2.1	1.7	65	S5C2	2.4	1.7	70	100	0.5
4 – 12	S5C3R	2.6	1.8	65	S5C3	2.8	1.8	70	100	0.5
4 – 16	S5C4R	3.2	2.0	60	S5C4	3.5	2.0	65	100	0.5
4 – 18	S5C5R	3.4	2.0	60	S5C5	3.6	2.0	65	100	0.5
6 – 10	S5C6R	2.2	1.7	65	S5C6	2.4	1.7	70	100	0.5
6 – 12	S5C7R	2.6	1.8	65	S5C7	2.8	1.8	70	100	0.5
6 – 18	S5C8R	3.4	2.0	60	S5C8	3.6	2.0	65	100	0.5
8 – 10	S5X1R	2.1	1.7	65	S5X1	2.4	1.7	70	100	0.5
8 – 12	S5X2R	2.5	1.8	65	S5X2	2.8	1.8	70	100	0.5
8 – 18	S5X3R	3.4	2.0	60	S5X3	3.6	2.0	65	100	0.5
10 – 18	S5K1R	3.4	2.0	60	S5K1	3.6	2.0	65	100	0.5
12 – 18	S5K2R	3.4	2.0	60	S5K2	3.6	2.0	65	100	0.5

**NOTES:**

DC Bias: +5V +/-0.5V @ 200mA max  
 -15V +/-3V @ 50mA max  
 DC Bias: +5V +/-0.5V @ 250mA max  
 (-5 option) -5V +/-0.5V @ 60mA max  
 Control: TTL 0 = Low Loss  
 TTL 1 = Isolation  
 Control Logic: E1 controls J2 – J1  
 E2 controls J3 – J1  
 E3 controls J4 – J1  
 E4 controls J5 – J1  
 E5 controls J6 – J1

**ENVIRONMENTAL SPECIFICATIONS:**

MIL-E-5400, MIL-STD-202, MIL-E-16400  
 Operating Temp: -55°C to +85°C  
 Storage Temp: -65°C to +125°C  
 Humidity: MIL-STD-202F, M103, Cond B  
 Shock: MIL-STD-202F, M213, Cond B  
 Altitude: MIL-STD-202F, M105, Cond B  
 Vibration: MIL-STD-202F, M204, Cond B  
 Thermal Shock: MIL-STD-202F, M107, Cond A  
 Temperature Cycle: MIL-STD-202F, M105C, Cond D

**MECHANICAL SPECIFICATIONS:**

Case Style: S5 Outline  
 Finish: Gray Epoxy Paint per MIL-C-22750  
 Connectors: SMA Female per MIL-C-39012  
 Bias & Control Pins: ø0.02" x 0.15" long  
 Weight: 60g max  
 Mounting: ø0.10" through holes (2) places

**SCREENING :**

Standard Screening:

Internal Visual per MIL-STD-883, Method 2017

Temperature Cycle: -65°C to +100°C, 10 cycles

Optional High-Rel Screening (Ref MIL-PRF-38534):

Internal Visual per MIL-STD-883, Method 2017

Stabilization Bake per MIL-STD-883, Method 1008

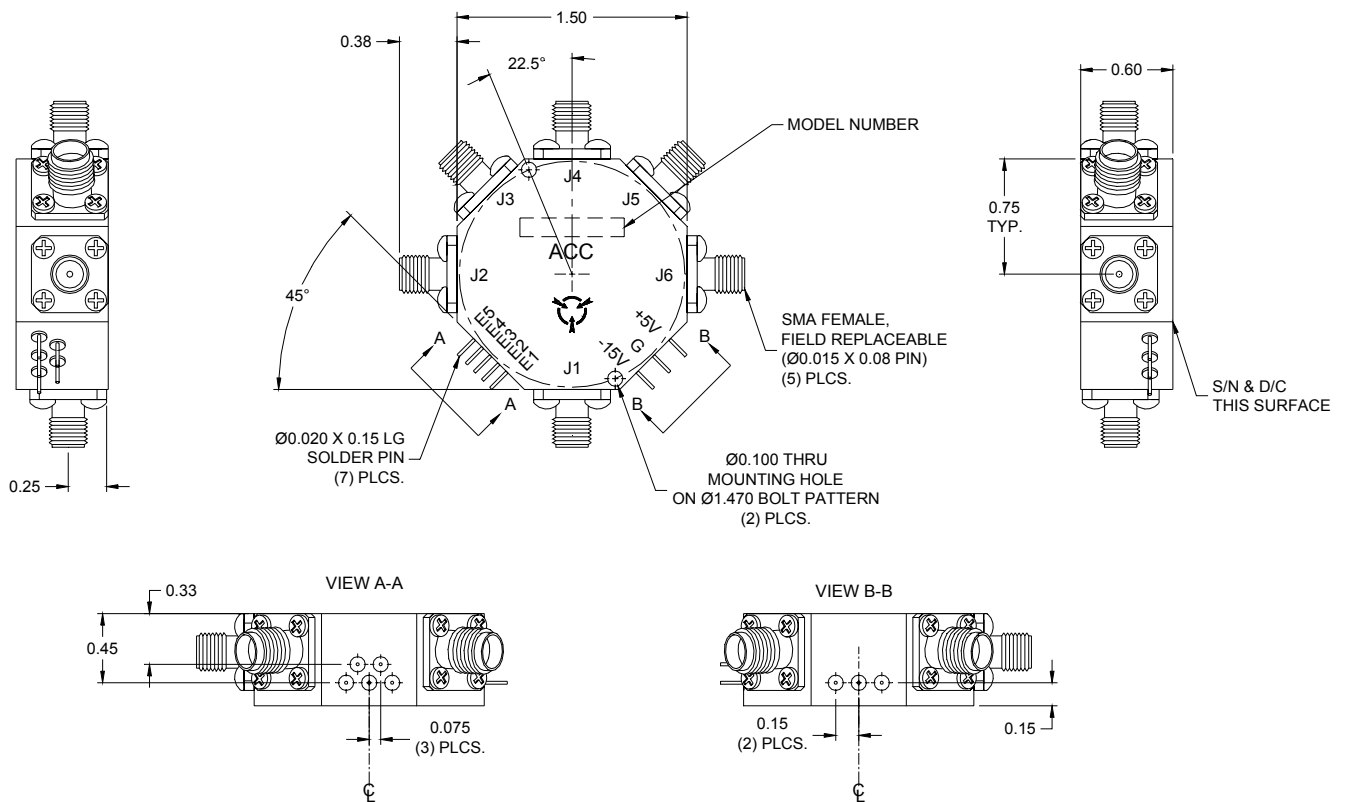
Temperature Cycle per MIL-STD-883, Method 1010

Constant Acceleration per MIL-STD-883, Method 2001

Burn-in per MIL-STD-883, Method 1015

Leak Test per MIL-STD-883, Method 1014

External Visual per MIL-STD-883, Method 2009



**OUTLINE CASE STYLE S5**

**OPTIONS:**

- Other frequency ranges available from 1MHz to 26GHz
- Reversed logic
- Available without SMA connectors for drop-in applications
- Hermetic seal (Add "H" to part number)
- Supply voltage options: +/-5V, +/-12V, +/-15V
- Video transient suppression
- GPO connectors
- 3-line TTL decoder
- ECL logic inputs
- Port-to-port and/or unit-to-unit phase and amplitude tracking

\* Contact the factory for price and delivery or to discuss custom requirements

S5-0205