



# S4X2R

## SWITCH

### SINGLE-POLE, FOUR-THROW REFLECTIVE

Frequency Range (min)	8 – 12	GHz
Insertion Loss (max)	2.3	dB
VSWR (max)	1.8	ratio
Isolation (min)	65	dB
Switching speed (max)	100	nsec
CW RF power, operating (max)	0.5	W

**NOTES:**

DC Bias: +5V +/-0.5V @ 160mA max  
(Standard) -15V +/-3V @ 50mA max

DC Bias: +5V +/-0.5V @ 200mA max  
(-5 option) -5V +/-0.5V @ 60mA max

DC Bias: +15V +/-3V @ 160mA max  
(-12 option) -15V +/-3V @ 50mA max

Control: TTL 0 = Low Loss E1 controls J2 – J1  
(Standard) TTL 1 = Isolation E2 controls J3 – J1  
E3 controls J4 – J1  
E4 controls J5 – J1

**MECHANICAL SPECIFICATIONS:**

Case Style: S4 Outline (Standard logic)  
S4-2 Outline (Two-bit logic)  
Finish: Gold plate per MIL-G-45204  
Connectors: SMA Female per MIL-C-39012  
Bias & Control Pins:  $\varnothing 0.02''$  x 0.15'' long  
Weight: 60g max  
Mounting:  $\varnothing 0.10''$  through holes (2) places

Two-bit control:  
(-2 option)  
E2 E1 Low loss path  
0 0 J2 – J1  
0 1 J3 – J1  
1 0 J4 – J1  
1 1 J5 – J1

Absorptive switch: Internal 50 $\Omega$  terminations at J2, J3, J4 and J5 (in isolation mode).

Switching speed is defined as 50%TTL to 90% (t-on) and 50%TTL to 10%RF (t-off).

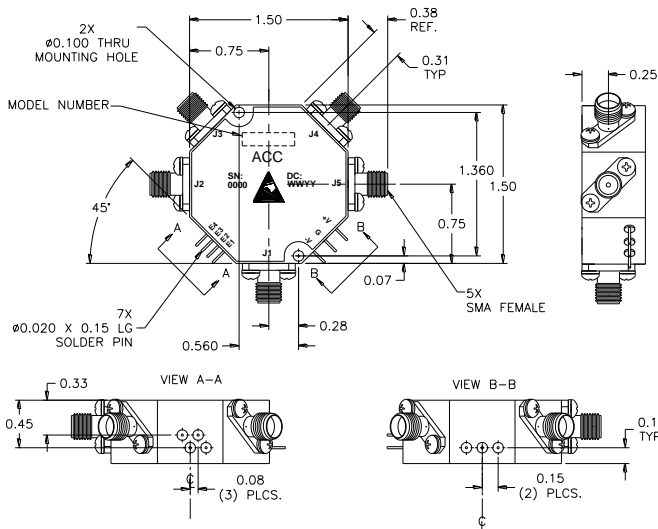
**ENVIRONMENTAL SPECIFICATIONS:**

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

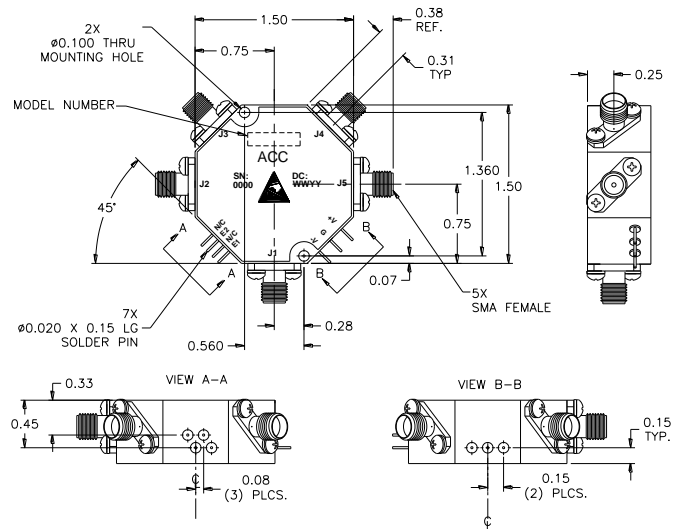
**SCREENING:**

Internal Visual per MIL-STD-883, Method 2017  
Temperature Cycle: -65°C to +100°C, 10 cycles

Hermetically-sealed switches are fine and gross leak checked per MIL-STD-883, Method 1014.



**OUTLINE CASE STYLE S4**



**OUTLINE CASE STYLE S4-2**

**PART NUMBER ORDERING INFORMATION:**

- Add "-RC" suffix: RoHS-compliant
- Add "-5" suffix: +/-5V DC supplies
- Add "-5-RC" suffix: +/-5V DC supplies, RoHS-compliant
- Add "-12" suffix: +/-12V to 18V DC supplies
- Add "-12-RC" suffix: +/-12V to 18V DC supplies, RoHS-compliant
- Add "-2": Two-bit logic control
- Add "-2-RC" suffix: Two-bit logic control, RoHS-compliant
- Add "-2-5" suffix: Two-bit logic control, +/-5V DC supplies
- Add "-2-5-RC" suffix: Two-bit logic control, +/-5V DC supplies, RoHS-compliant
- Add "-2-12" suffix: Two-bit logic control, +/-12V to 18V DC supplies
- Add "-2-12-RC" suffix: Two-bit logic control, +/-12V to 18V DC supplies, RoHS-compliant
- Add "-H" suffix: Hermetic seal (does not apply to RoHS-compliant models)