

# S6X2 Pin Diode Switch

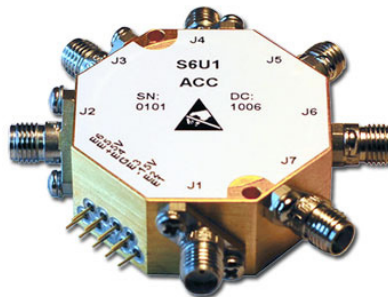
## Single Pole, Six Throw

## Absorptive



### Features:

- Incorporated TTL-compatible driver for convenient system integration and operates from +5V and -15V DC power supplies.
- DC blocks at all RF ports.
- Ruggedized construction.
- RoHS-compliant versions available.
- Hermetic versions available.



### Specifications:

Parameter	Specification	Units
Frequency Range	8 – 12	GHz
Insertion Loss (max)	3.0	dB
VSWR (max) 50 ohms	1.8	ratio
Isolation (min)	70	dB
Switching Speed (max)	100	nsec
CW RF Power, Operating (max)	0.5	W

### Notes:

DC Bias: (Standard)	+5V +/-0.5V @ 240 mA max -15V +/-3V @ 50 mA max
DC Bias: (-5 option)	+5V +/-0.5V @ 300 mA max -5V +/-0.5V @ 60 mA max
DC Bias: (-12 option)	+15V +/-3V @ 240 mA max -15V +/-3V @ 50 mA max
Control:	TTL 0 = Low Loss    E1 controls J2 – J1 TTL 1 = Isolation    E2 controls J3 – J1 E3 controls J4 – J1 E4 controls J5 – J1 E5 controls J6 – J1 E6 controls J7 – J1

Absorptive Switch: 50 ohm termination present at J2, J3, J4, J5, J6 and J7 (in isolation mode).

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

### Mechanical Specifications:

Case Styles:	S6 Outline (Six bit control) S6-3 Outline (Three bit control)																																				
Finish:	Gold Plate per MIL-G-45204																																				
Bias & Control Pins:	ø0.02" x 0.15" long																																				
Weight:	65 g max																																				
Mounting:	ø0.10" through holes (2) places																																				
Three Bit Control: (-3 option)	<table> <tr> <td>E3</td> <td>E2</td> <td>E1</td> <td>Low Loss Path</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>J2 - J1</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>J3 - J1</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>J4 - J1</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>J5 - J1</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>J6 - J1</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>J7 - J1</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>ALL OFF</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>ALL OFF</td> </tr> </table>	E3	E2	E1	Low Loss Path	0	0	0	J2 - J1	0	0	1	J3 - J1	0	1	0	J4 - J1	0	1	1	J5 - J1	1	0	0	J6 - J1	1	0	1	J7 - J1	1	1	0	ALL OFF	1	1	1	ALL OFF
E3	E2	E1	Low Loss Path																																		
0	0	0	J2 - J1																																		
0	0	1	J3 - J1																																		
0	1	0	J4 - J1																																		
0	1	1	J5 - J1																																		
1	0	0	J6 - J1																																		
1	0	1	J7 - J1																																		
1	1	0	ALL OFF																																		
1	1	1	ALL OFF																																		

### Environmental Specifications:

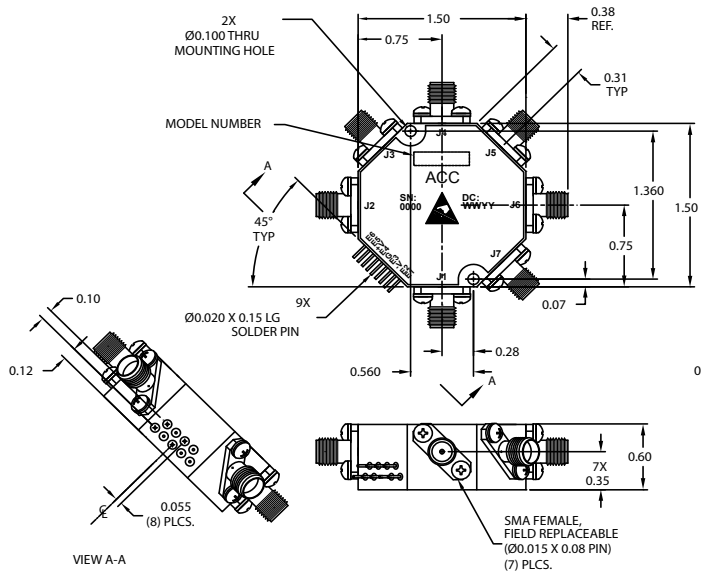
MIL-E-5400, MIL-STD-202, MIL-E-16400	
Operating Temp:	-55 °C to +85 °C
Storage Temp:	-65 °C to +125 °C
Humidity:	MIL-STD-202F, M103, Cond B
Shock:	MIL-STD-202F, M213, Cond B
Altitude:	MIL-STD-202F, M105, Cond B
Vibration:	MIL-STD-202F, M204, Cond B
Thermal Shock:	MIL-STD-202F, M107, Cond A
Temperature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

### Screening:

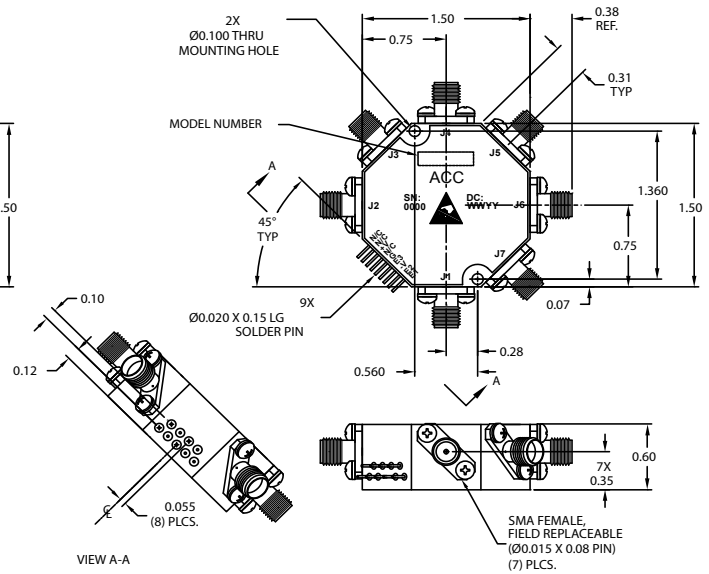
Internal Visual per MIL-STD-883, Method 2017  
 Temperature Cycle: -65 °C to +100 °C, 10 cycles  
 Hermetically-sealed switches are fine and gross leak checked per MIL-STD-883, Method 1014.  
 Optional High-Rel screening available upon request. Contact the factory to discuss your screening requirements.



40 Industrial Way East, Eatontown, NJ 07724 [USA]  
 Phone: (732) 460-0212, Fax: (732) 460-0214  
 www.aeroflex.com/acc, email: acc-sales@aeroflex.com



OUTLINE CASE STYLE S6



OUTLINE CASE STYLE S6-3

### Part Number Ordering Information:

- Add "-RC" suffix: RoHS-compliant
- Add "-H" suffix: Hermetic seal
- Add "-5" suffix: +/-5V DC supplies
- Add "-5-RC" suffix: +/-5V DC supplies, RoHS-compliant
- Add "-5-H" suffix: +/-5V DC supplies, Hermetic seal
- Add "-12" suffix: +/-15V DC supplies
- Add "-12-RC" suffix: +/-15V DC supplies, RoHS-compliant
- Add "-12-H" suffix: +/-15V DC supplies, Hermetic seal
- Add "-3" suffix: Three bit logic control
- Add "-3-RC" suffix: Three bit logic control, RoHS-compliant
- Add "-3-H" suffix: Three bit logic control, Hermetic seal
- Add "-3-5" suffix: Three bit logic control, +/-5V DC supplies
- Add "-3-5-RC" suffix: Three bit logic control, +/-5V DC supplies, RoHS-compliant
- Add "-3-5-H" suffix: Three bit logic control, +/-5V DC supplies, Hermetic seal
- Add "-3-12" suffix: Three bit logic control, +/-15V DC supplies
- Add "-3-12-RC" suffix: Three bit logic control, +/-15V DC supplies, RoHS-compliant
- Add "-3-12-H" suffix: Three bit logic control, +/-15V DC supplies, Hermetic seal

**Aeroflex Control Components**  
Aeroflex Microelectronic Solutions  
40 Industrial Way East  
Eatontown, NJ 07724 [USA]  
Fax: (732) 460-0214

Sales  
Phone: (732) 460-0212  
ACC-sales@aeroflex.com

[www.aeroflex.com/Microwave](http://www.aeroflex.com/Microwave) [www.aeroflex.com/ACC](http://www.aeroflex.com/ACC)

Aeroflex Control Components reserves the right to make changes to any products and services herein at any time without notice. Consult Aeroflex or an authorized sales representative to verify that the information in this data sheet is current before using this product. Aeroflex does not assume any responsibility or liability arising out of the application or use of any product or service described herein, except as expressly agreed to in writing by Aeroflex; nor does the purchase, lease, or use of a product or service from Aeroflex convey a license under any patent rights, copyrights, trademark rights, or any other of the intellectual rights of Aeroflex or of third parties.

Copyright 2011 Aeroflex Control Components. All rights reserved.

ISO 9001:2008 certified



Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.