

# S6C7 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	6 – 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
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#### 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.



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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

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