

S6C5/S6C5R PIN Diode Switch

Single Pole, Six Throw
Absorptive/Reflective

COBHAM

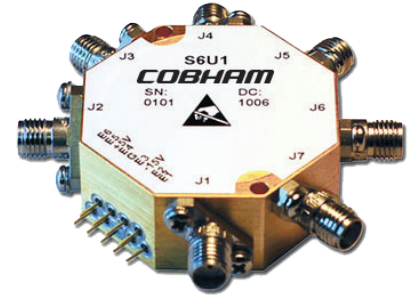
Data Sheet Revision Date: 12/11/2015

The most important thing we build is trust

DESCRIPTION:

The S6 series of single pole, six 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 military and aerospace applications.

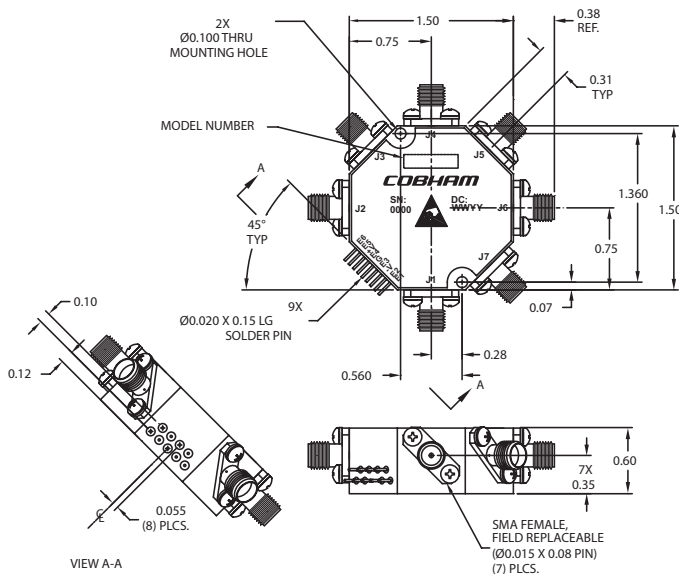


SPECIFICATIONS:

Parameter	Absorptive	Reflective	Unit of Measure
Frequency Range	4 – 18	4 – 18	GHz
Insertion Loss (max)	3.9	3.6	dB
VSWR (max) (50 ohms)	2.0	2.0	ratio
Isolation (min)	65	60	dB
Switching Speed (max)	100	100	nsec
CW RF Power, Survival	30	30	dBm
P1dB*	27	27	dBm

*Standard bias configuration

OUTLINE DRAWING:



OUTLINE CASE STYLE S6

FEATURES:

- TTL-compatible drivers for convenient system integration
- Operates on +5V or +15V and -5V or -15V DC power supplies (see ordering information)
- DC blocks at all RF ports
- Ruggedized construction
- Hermetic versions available
- All parts receive internal visual (per MIL-STD-883) and temp cycle (-65 °C to +100 °C, 10 cycles)
- Hi-Rel screening available upon request
- 30-day lead time on some configurations (contact factory for details)

S6C5/S6C5R PIN Diode Switch

Single Pole, Six Throw, Absorptive/Reflective



NOTES:

DC Bias: +5 V +/- 0.5 V @ 240 mA max
(Standard) -15 V +/- 3 V @ 50 mA max

DC Bias: +5 V +/- 0.5 V @ 300 mA max
(-5 option) -5 V +/- 0.5 V @ 60 mA max

DC Bias: +15 V +/- 3 V @ 240 mA max
(-12 option) -15 V +/- 3 V @ 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

Three Bit Control: (-3 option)	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

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).

Finish: Gold Plate per MIL-G-45204
Chem film per MIL-C-5541

Weight: 65g (max)

PART NUMBER ORDERING INFORMATION:

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

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

* Compliant by design, verification optional

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

ISO 9001:2008 and AS9100 certified

Aeroflex Control Components, DBA Cobham Signal & Control Solutions (CSCS) reserves the right to make changes to any products and services herein at any time without notice. Consult CSCS or an authorized sales representative to verify that the information in this data sheet is current before using this product. CSCS 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 CSCS; nor does the purchase, lease, or use of a product or service from CSCS convey a license under any patent rights, copyrights, trademark rights, or any other of the intellectual rights of CSCS or of third parties.

Copyright 2015, Cobham Signal & Control Solutions. All rights reserved.

For further information please contact:

Cobham Signal & Control Solutions
40 Industrial Way East
Eatontown, NJ 07724 [USA]
Phone: (732) 460-0212
Fax: (732) 460-0214
ASCS-sales@aeroflex.com