

S6C7/S6C7R PIN Diode Switch

Single Pole, Six Throw
Absorptive/Reflective

COBHAM

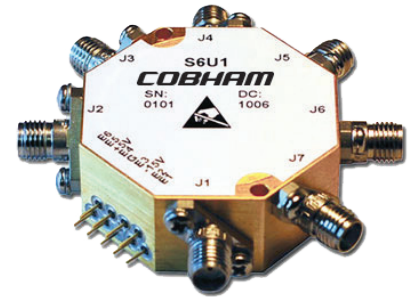
Data Sheet Revision Date: 12/11/2015

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.

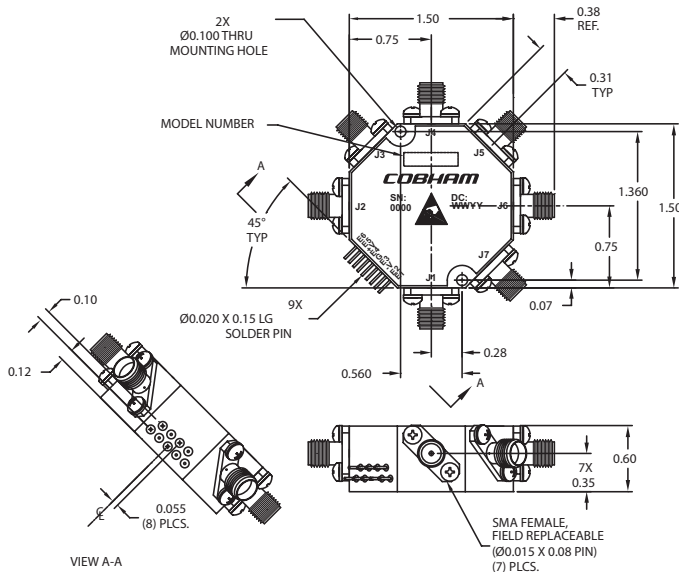


SPECIFICATIONS:

| Parameter | Absorptive | Reflective | Unit of Measure |
|-----------------------|------------|------------|-----------------|
| Frequency Range | 6 – 12 | 6 – 12 | GHz |
| Insertion Loss (max) | 3.0 | 2.8 | dB |
| VSWR (max) (50 ohms) | 1.8 | 1.8 | ratio |
| Isolation (min) | 70 | 65 | 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)

S6C7/S6C7R PIN Diode Switch

Single Pole, Six Throw, Absorptive/Reflective



NOTES:

| | |
|--------------------------|---|
| DC Bias: (Standard) | +5 V +/- 0.5 V @ 240 mA max -15 V +/- 3 V @ 50 mA max |
| DC Bias: (-5 option) | +5 V +/- 0.5 V @ 300 mA max -5 V +/- 0.5 V @ 60 mA max |
| DC Bias: (-12 option) | +15 V +/- 3 V @ 240 mA max -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

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