

# S5V3 Pin Diode Switch

## Single Pole, Five 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              | 0.1 – 2       | GHz   |
| Insertion Loss (max)         | 2.2           | dB    |
| VSWR (max) 50 ohms           | 1.6           | ratio |
| Isolation (min)              | 80            | dB    |
| Switching Speed (max)        | 250           | nsec  |
| CW RF Power, Operating (max) | 1             | W     |

#### Notes:

|                       |  |
|-----------------------|--|
| DC Bias: (Standard)   | +5V +/-0.5V @ 160 mA max<br>-15V +/-3V @ 50 mA max   |
| DC Bias: (-5 option)  | +5V +/-0.5V @ 200 mA max<br>-5V +/-0.5V @ 60 mA max  |
| DC Bias: (-12 option) | +15V +/-3V @ 160 mA max<br>-15V +/-3V @ 50 mA max  |
| Control:              | TTL 0 = Low Loss    E1 controls J2 – J1<br>TTL 1 = Isolation    E2 controls J3 – J1<br>E3 controls J4 – J1<br>E4 controls J5 – J1<br>E5 controls J6 – J1 |

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

Switching speed is defined as 50% TTL to 90% RF (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 |

#### Mechanical Specifications:

|                      |   |
|----------------------|---|
| Case Styles:         | S5 Outline (Five bit control)<br>S5-3 Outline (Three bit control) |
| Finish:              | Gold Plate per MIL-G-45204  |
| Bias & Control Pins: | ø0.02" x 0.15" long   |
| Weight:              | 60 g max  |
| Mounting:            | ø0.10" through holes<br>(2) places                                |

|                                |    |    |    |               |
|--------------------------------|----|----|----|---------------|
| 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  | ALL OFF       |
|                                | 1  | 1  | 0  | ALL OFF       |
|                                | 1  | 1  | 1  | ALL OFF       |

#### Screening:

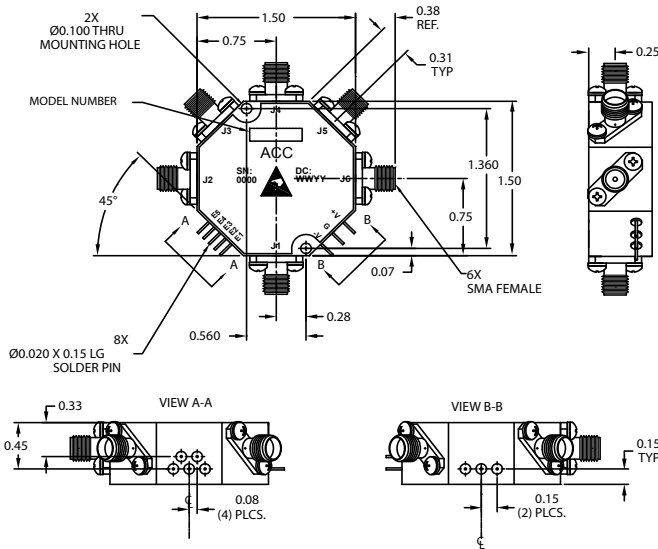
Internal Visual per MIL-STD-883, Method 2017  
Temperature Cycle: -65 °C to +100 °C, 10 cycles

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

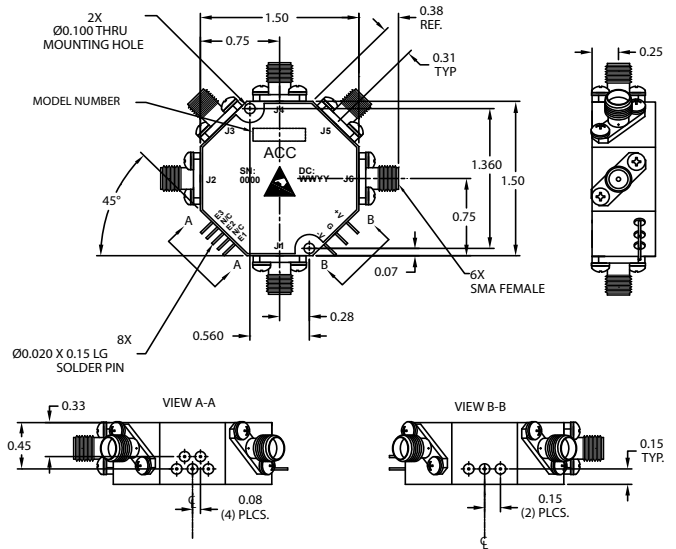
Optional High-Rel screening available upon request. Contact the factory to discuss your screening requirements.



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OUTLINE CASE STYLE S5



OUTLINE CASE STYLE S5-3

### 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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