SP3T-SP14T MULTIPOSITION COAXIAL SWITCH
Dow-Key Microwave
• www.dowkey.com
• 800.266.3695

AS9100/ISO-9001: 2008 Certified

SP3T-SP6T

535-565 Normally Open | SMA, 2.9mm (K)

• DC-18 GHz
• DC-26.5 GHz
• DC-40 GHz
• Low/Medium Power
• 1M Life Cycles

RF Characteristics

<table>
<thead>
<tr>
<th>Frequency</th>
<th>VSWR (max)</th>
<th>Isolation dB (min)</th>
<th>Ins. Loss dB (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC-4</td>
<td>1.20</td>
<td>70</td>
<td>0.20</td>
</tr>
<tr>
<td>4-8</td>
<td>1.30</td>
<td>65</td>
<td>0.30</td>
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<td>1.40</td>
<td>65</td>
<td>0.40</td>
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<tr>
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<td>1.50</td>
<td>60</td>
<td>0.50</td>
</tr>
<tr>
<td>*18-26.5</td>
<td>1.80</td>
<td>50</td>
<td>0.80</td>
</tr>
</tbody>
</table>

* Performance varies depending on selected options

For DC-40 GHz switches contact the factory

Specifications

Operating Voltage:
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

Coil Current (max. @ nom. Vdc & 25°C)*:
- 12 Vdc 335 mA
- 24 Vdc 190 mA
- 28 Vdc 160 mA

Switching Time:
20 ms maximum

Operating Temperature:
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

Mechanical Life Cycles:
1,000,000 minimum

Vibration, Operating:
10G RMS, 20-2000 Hz

Mechanical Shock, Non-Operating:
30G, 1/2 Sine, 11 ms

Nominal Weight**:
4.0 oz. (113 g.)

* Performance and weight varies depending on selected options.

Part Number Selector

For Electrical Schematic, see page # 3-20

RF Characteristics

<table>
<thead>
<tr>
<th>Frequency</th>
<th>VSWR (max)</th>
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</table>

* Performance varies depending on selected options

For DC-40 GHz switches contact the factory
431-461 Normally Open Terminated | SMA

- DC-18 GHz
- DC-26.5 GHz
- Low/Medium Power
- 1M Life Cycles

**Specifications**

**Operating Voltage:**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc: 345 mA
- 24 Vdc: 200 mA
- 28 Vdc: 160 mA

**Switching Time:**
15 ms maximum

**Operating Temperature:**
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

**Mechanical Life, Cycles:**
1,000,000 minimum

**Vibration, Operating:**
10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
30G, 1/2 Sine, 11 ms

**Nominal Weight:**
10.0 oz. (284 g.)

* Performance and weight varies depending on selected options.

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency GHz</th>
<th>VSWR (max)</th>
<th>Isolation dB (min)</th>
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<tr>
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<td>0.80</td>
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* Performance varies depending on selected options.

**Part Number Selector**

- **Family**
  - 431 = SP3T
  - 441 = SP4T
  - 461 = SP6T

- **Special Options**
  - C = Mounting Bracket
  - J = 9 or 15 Pin ‘D’ Connector
  - K = 26.5 GHz
  - L = Flange Mount
  - P = Power Plug
  - R = (-) Com*
  - S = Epoxy Seal
  - T = -55° to +85°C

- **Actuator**
  - 5 = Normally Open
  - 9 = Normally Open Suppression Diodes

- **Coil Voltage**
  - 2 = 12 Vdc
  - 3 = 28 Vdc
  - 8 = 24 Vdc

- **Connectors**
  - 08 = SMA Female

- **Indicators**
  - 03 = No Indicators
  - 23 = SPST Indicators

- **Circuit Options**
  - A = TTL High
  - L = TTL Low

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.
**Part Number Selector**

- **Family**: 461 = SP3T
- **Special Options**:
  - C = Mounting Bracket
  - J = 9 or 15 Pin 'D' Connector
  - K = 26.5 GHz
  - L = Flange Mount
  - P = Power Plug
  - R = (-) Com
  - S = Epoxy Seal
  - T = -55º to +85º C
- **Actuator**: 4 = Latching Self Cutoff
- **Coil Voltage**:
  - 2 = 12 Vdc
  - 3 = 28 Vdc
  - 8 = 24 Vdc
- **Indicators**:
  - 02 = No Indicators*
  - 22 = SPST Indicators
- **Connectors**:
  - 08 = SMA Female
- **Circuit Options**:
  - 02 = No Indicators*
  - A = TTL High
  - N = CANBus

**RF Characteristics**

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<tr>
<th>Frequency (GHz)</th>
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**Specifications**

- **Operating Voltage**:
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)
- **Coil Current (max @ nom. Vdc & 25°C)**:
  - 12 Vdc 570 mA
  - 24 Vdc 225 mA
  - 28 Vdc 180 mA
- **Switching Time**:
  - 15 ms maximum
- **Operating Temperature**:
  - -25ºC to +65ºC (Standard)
  - -55ºC to +85ºC (Extended “T” Option)
- **Mechanical Life Cycles**:
  - 1,000,000 minimum
- **Vibration, Operating**:
  - 10G RMS, 20-2000 Hz
- **Mechanical Shock, Non-Operating**:
  - 30G, 1/2 Sine, 11 ms
- **Nominal Weight**:
  - 11.0 oz. (312 g.)

* Performance and weight varies depending on selected options.

**Mechanical**

- **Dimensions**:
  - .29 [7.4] x .165 [4.2]
  - .31 [7.9] max.
- **Model**:
  - 461-430822 Shown
- **For Electrical Schematic, see page # 3-21**

**RF Characteristics**

- **Frequency (GHz)**
- **VSWR (max)**
- **Isolation (dB) (min)**
- **Ins. Loss (dB) (max)**

**TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.**
431-461 Latching Terminated | SMA

- DC-18 GHz
- DC-26.5 GHz
- Low/Medium Power
- 1M Life Cycles

RF Characteristics

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*Performance varies depending on selected options.

Specifications

**Operating Voltage:**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc 570 mA
- 24 Vdc 225 mA
- 28 Vdc 180 mA

**Switching Time:**
15 ms maximum

**Operating Temperature:**
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

**Mechanical Life, Cycles:**
1,000,000 minimum

**Vibration, Operating:**
10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
30G, 1/2 Sine, 11 ms

**Nominal Weight:**
11.0 oz. (312 g.)

*Performance and weight varies depending on selected options.

Part Number Selector

461 J 2 08 03 A - ROHS

**Family**
- 431 = SP3T
- 441 = SP4T
- 461 = SP6T

**Special Options**
- C = Mounting Bracket
- J = 9 or 15 Pin ‘D’ Connector
- L = Flange Mount
- K = 26.5 GHz
- P = Power Plug
- R = (-) Com
- S = Epoxy Seal
- T = -55° to +85° C

**Actuator**
- 4 = Latching Self Cutoff

**Coil Voltage**
- 2 = 12 Vdc
- 3 = 28 Vdc
- 8 = 24 Vdc

**Connectors**
- 08 = SMA Female

**Indicators**
- 03 = No Indicators
- 23 = SPST Indicators

**Circuit Options**
- A = TTL High
- N = CANBus

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

For Electrical Schematic, see page # 3-21
**Specifications**

**Mechanical Life Cycles:**
1,000,000 minimum

**Vibration, Operating:**
10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
30G, 1/2 Sine, 11 ms

**Nominal Weight:**
17.0 oz. (482 g.)

* Performance and weight varies depending on selected options.

---

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>VSWR (max)</th>
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<td>60</td>
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Performance varies depending on selected options.

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**Part Number Selector**

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<th>Special Options</th>
<th>Actuator</th>
<th>Coil Voltage</th>
<th>Connectors</th>
<th>Indicators</th>
<th>Circuit Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>531 = SP3T</td>
<td>A = High Power</td>
<td>5 = Normally Open</td>
<td>2 = 12 Vdc</td>
<td>01 = N Female</td>
<td>02 = No Indicators*</td>
<td>A = TTL High</td>
</tr>
<tr>
<td>541 = SP4T</td>
<td>C = Mounting Bracket</td>
<td>9 = Normally Open Open Suppression Diodes</td>
<td>3 = 28 Vdc</td>
<td>02 = BNC Female</td>
<td>22 = SPST Indicators</td>
<td></td>
</tr>
<tr>
<td>561 = SP6T</td>
<td>J = 9 or 15 Pin 'D' Connector</td>
<td>S = Epoxy Seal</td>
<td>8 = 24 Vdc</td>
<td>03 = TNC Female</td>
<td>** Declared only with Circuit Options</td>
<td></td>
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TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

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**AS9100/ISO-9001: 2008 Certified**

Dow-Key Microwave • www.dowkey.com • 800.266.3695
531-561 Latching | N, BNC, TNC, SC

RF Characteristics

<table>
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<tr>
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<td>0.40</td>
</tr>
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<td>8-12.4</td>
<td>1.70</td>
<td>55</td>
<td>0.70</td>
</tr>
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</table>

Performance applies to N and TNC type connectors. Consult with factory for other performances.

Specifications

Operating Voltage:
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

Coil Current (max. @ nom. Vdc & 25°C)*:
- 12 Vdc 550 mA
- 24 Vdc 275 mA
- 28 Vdc 240 mA

Switching Time:
20 ms maximum

Operating Temperature:
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

Mechanical Life, Cycles:
1,000,000 minimum

Vibration, Operating:
10G RMS, 20-2000 Hz

Mechanical Shock, Non-Operating:
30G, 1/2 Sine, 11 ms

Nominal Weight*:
22.0 oz. (624 g.)

* Performance and weight varies depending on selected options.

Part Number Selector

RF Characteristics

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Performance applies to N and TNC type connectors. Consult with factory for other performances.

Specifications

Operating Voltage:
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

Coil Current (max. @ nom. Vdc & 25°C)*:
- 12 Vdc 550 mA
- 24 Vdc 275 mA
- 28 Vdc 240 mA

Switching Time:
20 ms maximum

Operating Temperature:
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

Mechanical Life, Cycles:
1,000,000 minimum

Vibration, Operating:
10G RMS, 20-2000 Hz

Mechanical Shock, Non-Operating:
30G, 1/2 Sine, 11 ms

Nominal Weight*:
22.0 oz. (624 g.)

* Performance and weight varies depending on selected options.
SP3T-SP6T

531Y-561Y Latching Terminated | 2.9 mm (K)

- DC-40 GHz
- Medium/High Power
- 1M Life Cycles

**Specifications**

**Mechanical**

**Operating Voltage (across temperature range):**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25ºC):**
- 12 Vdc  565 mA
- 24 Vdc  255 mA
- 28 Vdc  220 mA

**Switching Time:**
- 15 ms maximum

**Operating Temperature:**
- -25ºC to +65ºC (Standard)
- -55ºC to +85ºC (Extended “T” Option)

**Mechanical Life, Cycles:**
- 1,000,000 minimum

**Vibration, Operating:**
- 10 G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
- 30 G, 1/2 Sine, 11 ms

**Nominal Weight:**
- 11.0 oz. (312 g.)

* Performance and weight varies depending on selected options.

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>VSWR (max)</th>
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<th>Ins. Loss (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC-6</td>
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<td>6-12</td>
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<td>12-18</td>
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<td>0.50</td>
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<td>18-26.5</td>
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<td>0.70</td>
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<td>26.5-40</td>
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**Part Number Selector**

561JY4311 Shown

For Electrical Schematic, see page # 3-21

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3-8

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AS9100/ISO-9001: 2008 Certified
Specifications

**Operating Voltage (across temperature range):**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc 300 mA
- 24 Vdc 150 mA
- 28 Vdc 130 mA

**Switching Time:**
15 ms maximum

**Operating Temperature:**
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

**Mechanical Life Cycles:**
1,000,000 minimum

**Vibration, Operating:**
10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
30G, 1/2 Sine, 11 ms

**Nominal Weight:**
5.0 oz. (142 g.)

*Performance and weight varies depending on selected options.

---

**RF Characteristics**

<table>
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<tr>
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Performance varies depending on selected options.

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**Part Number Selector**

581 J 5 2 08 02 A - ROHS

**Actuator**
- 5 = Normally Open

**Coil Voltage**
- 2 = 12 Vdc
- 3 = 28 Vdc
- 8 = 24 Vdc

**Connectors**
- 08 = SMA Female

**Indicators**
- 02 = No Indicators*
- 22 = SPST Indicators

**Circuit Options**
- A = TTL High
- N = CANBus

* Declared only with Circuit Options

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.
581 Normally Open Terminated | SMA

**Specifications**

- **Operating Voltage:**
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)

- **Coil Current (max. @ nom. Vdc & 25°C):**
  - 12 Vdc: 345 mA
  - 24 Vdc: 175 mA
  - 28 Vdc: 150 mA

- **Switching Time:**
  - 15 ms maximum

- **Operating Temperature:**
  - -25°C to +65°C (Standard)
  - -55°C to +85°C (Extended “T” Option)

- **Mechanical Life, Cycles:**
  - 1,000,000 minimum

**Mechanical**

- **Vibration, Operating:**
  - 10G RMS, 20-2000 Hz

- **Mechanical Shock, Non-Operating:**
  - 30G, 1/2 Sine, 11 ms

- **Nominal Weight:**
  - 16.5 oz. (468 g.)

*Performance and weight varies depending on selected options.

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**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
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<td>18-26.5</td>
<td>1.80</td>
<td>55</td>
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Performance may vary depending on selected options.

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**Part Number Selector**

581-530823 Shown

For Electrical Schematic, see page # 3-20

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**ROHS**

- **Actuator**
  - J = 9 or 26 Pin ‘D’ Connector
  - 5 = Normally Open
  - K = 26.5 GHz
  - P = Power Plug
  - R = (-) Com
  - S = Epoxy Seal
  - T = -55° to +85° C

- **Coil Voltage**
  - 2 = 12 Vdc
  - 3 = 28 Vdc
  - 8 = 24 Vdc

- **Connectors**
  - 08 = SMA Female

- **Indicators**
  - 03 = No Indicators
  - 23 = SPST Indicators

- **Circuit Options**
  - A = TTL High
  - E = BCD Decoding

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.
**Specifications**

- **Operating Voltage:**
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)
- **Coil Current (max. @ nom. Vdc & 25°C):**
  - 12 Vdc: 440 mA
  - 24 Vdc: 225 mA
  - 28 Vdc: 190 mA
- **Switching Time:**
  - 15 ms maximum
- **Operating Temperature:**
  - -25°C to +65°C (Standard)
  - -55°C to +85°C (Extended “T” Option)
- **Mechanical Life, Cycles:**
  - 1,000,000 minimum
- **Vibration, Operating:**
  - 10G RMS, 20-2000 Hz
- **Mechanical Shock, Non-Operating:**
  - 30G, 1/2 Sine, 11 ms
- **Nominal Weight:**
  - 18.0 oz. (510 g.)

*Performance and weight vary depending on selected options.*

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>VSWR (max)</th>
<th>Isolation (dB) (min)</th>
<th>Ins. Loss (dB) (max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC-4</td>
<td>1.20</td>
<td>80</td>
<td>0.20</td>
</tr>
<tr>
<td>4-8</td>
<td>1.30</td>
<td>75</td>
<td>0.30</td>
</tr>
<tr>
<td>8-12.4</td>
<td>1.40</td>
<td>70</td>
<td>0.40</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.50</td>
<td>60</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

**Part Number Selector**

- **581**
  - **J** = 9 or 26 Pin ‘D’ Connector
  - **4** = Latching Self Cutoff
  - **2** = 12 Vdc
  - **08** = SMA Female
  - **02** = No Indicators* (ROHS)
  - **A** = TTL High
  - **T** = 10G RMS, 20-2000 Hz

*Declared only with Circuit Options.*

**Note:** TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.
**Specifications**

**Operating Voltage:**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc 440 mA
- 24 Vdc 225 mA
- 28 Vdc 190 mA

**Switching Time:**
15 ms maximum

**Operating Temperature:**
-25°C to +65°C (Standard)
-55°C to +85°C (Extended “T” Option)

**Mechanical Life, Cycles:**
1,000,000 minimum

**Vibration, Operating:**
10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
50G, 1/2 Sine, 11 ms

**Nominal Weight:**
18.0 oz. (510 g.)

*Performance and weight varies depending on selected options.

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>VSWR (max)</th>
<th>Isolation (dB) (min)</th>
<th>Ins. Loss (dB) (max)</th>
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<tr>
<td>DC-4</td>
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<tr>
<td>8-12.4</td>
<td>1.40</td>
<td>70</td>
<td>0.40</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.50</td>
<td>60</td>
<td>0.50</td>
</tr>
<tr>
<td>18-26.5</td>
<td>1.70</td>
<td>55</td>
<td>0.70</td>
</tr>
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</table>

Performance may vary depending on selected options.

**Part Number Selector**

<table>
<thead>
<tr>
<th>581</th>
<th>J</th>
<th>4</th>
<th>2</th>
<th>08</th>
<th>03</th>
<th>A</th>
<th>ROHS</th>
</tr>
</thead>
</table>

**Special Options**
- Actuator
  - 4 = Latching Self Cutoff

**Actuator**
- J = 9 or 26 Pin ‘D’ Connector

**Coil Voltage**
- 2 = 12 Vdc
- 3 = 28 Vdc
- 8 = 24 Vdc

**Connectors**
- 08 = SMA Female

**Indicators**
- 03 = No Indicators
- 23 = SPST Indicators
- 53 = Indicators

**Circuit Options**
- A = TTL High
- N = CANBus

*TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.
**5A1 Normally Open | SMA SP10T**

- **DC-18 GHz**
- **Low/Medium Power**
- **1M Life Cycles**

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency GHz</th>
<th>VSWR (max)</th>
<th>Isolation dB (min)</th>
<th>Ins. Loss dB (max)</th>
</tr>
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<td>0.20</td>
</tr>
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<td>0.30</td>
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<td>60</td>
<td>0.40</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.60</td>
<td>55</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

---

**Specifications**

**Operating Voltage:**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc 300 mA
- 24 Vdc 150 mA
- 28 Vdc 135 mA

**Switching Time:**
- 15 ms maximum

**Operating Temperature:**
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

**Mechanical Life, Cycles:**
- 1,000,000 minimum

**Vibration, Operating:**
- 10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
- 30G, 1/2 Sine, 11 ms

**Nominal Weight:**
- 5.5 oz. (156 g.)

* Performance varies depending on selected options.

---

**Part Number Selector**

- **5A1**
- **J - 5**
- **2 08 02 A - ROHS**

**Special Options**
- **J** = 9 or 26 Pin ‘D’ Connector
- **R** = (·) Com*
- **S** = Epoxy Seal
- **T** = -65° to +85°C

**Actuator**
- 5 = Normally Open

**Coil Voltage**
- 2 = 12 Vdc
- 3 = 28 Vdc
- 8 = 24 Vdc

**Connectors**
- 08 = SMA Female

**Indicators**
- 02 = No Indicators**
- 22 = SPST Indicators

**Circuit Options**
- A = CANBus
- A = TTL High

**Diodes**
- 3 = 28 Vdc
- 22 = SPST Indicators

**Epoxy Seal**
- 8 = 24 Vdc

**N** = CANBus

* Only available with Normally Open Suppression Diodes

---

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

---

**Notes:**
- ROHS
- **Declared only with Circuit Options**

---

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3-13
5A1 Normally Open Terminated | SMA

**Specifications**

- **Operating Voltage:**
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)

- **Coil Current (max. @ nom. Vdc & 25°C):**
  - 12 Vdc: 345 mA
  - 24 Vdc: 175 mA
  - 28 Vdc: 150 mA

- **Switching Time:**
  - 20 ms maximum

- **Operating Temperature:**
  - -25°C to +65°C (Standard)
  - -55°C to +85°C (Extended “T” Option)

- **Mechanical Life, Cycles:**
  - 1,000,000 minimum

- **Vibration, Operating:**
  - 10G RMS, 20-2000 Hz

- **Mechanical Shock, Non-Operating:**
  - 30G, 1/2 Sine, 11 ms

- **Nominal Weight:**
  - 17.5 oz. (496 g.)

* Performance and weight varies depending on selected options.

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>VSWR (max)</th>
<th>Isolation (min)</th>
<th>Ins. Loss (max)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.20</td>
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<td>4-8</td>
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<td>65</td>
<td>0.30</td>
</tr>
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<td>8-12.4</td>
<td>1.40</td>
<td>70</td>
<td>0.40</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.50</td>
<td>60</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

**Part Number Selector**

- **5A1 J 5-2 08 03 A ROHS**

- **Special Options**
  - J = 15 or 26 Pin 'D' Connector
  - R = ( ) Com
  - S = Epoxy Seal
  - T = -55°C to +85°C

- **Actuator**
  - 5 = Normally Open

- **Coil Voltage**
  - 2 = 12 Vdc
  - 3 = 28 Vdc
  - 8 = 24 Vdc

- **Connectors**
  - 08 = SMA Female

- **Indicators**
  - 03 = No Indicators
  - 23 = SPST Indicators

- **Circuit Options**
  - A = TTL High
  - E = BCD Decoding

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

5A1-530823 Shown
For Electrical Schematic, see page # 3-20

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5A1 Latching | SMA

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>VSWR (max)</th>
<th>Isolation (dB (min))</th>
<th>Ins. Loss (dB (max))</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC-4</td>
<td>1.20</td>
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<td>0.20</td>
</tr>
<tr>
<td>4-8</td>
<td>1.30</td>
<td>65</td>
<td>0.30</td>
</tr>
<tr>
<td>8-12.4</td>
<td>1.40</td>
<td>60</td>
<td>0.40</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.60</td>
<td>55</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

**Specifications**

- **Operating Voltage:**
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)

- **Coil Current (max. @ nom. Vdc & 25°C):**
  - 12 Vdc: 440 mA
  - 24 Vdc: 225 mA
  - 28 Vdc: 190 mA

- **Switching Time:**
  - 20 ms maximum

- **Operating Temperature:**
  - -25°C to +65°C (Standard)
  - -55°C to +85°C (Extended “T” Option)

- **Mechanical Life, Cycles:**
  - 1,000,000 minimum

- **Vibration, Operating:**
  - 10G RMS, 20-2000 Hz

- **Mechanical Shock, Non-Operating:**
  - 30G, 1/2 Sine, 11 ms

- **Nominal Weight:**
  - 15.0 oz. (425 g.)

* Performance and weight varies depending on selected options.

**Part Number Selector**

- **J = 9 or 26 Pin ‘D’ Connector**
- **4 = Latching Self Cutoff**
- **P = Power Plug**
- **R = (-) Com**
- **S = Epoxy Seal**
- **T = -55° to +85° C**

- **Actuator**
  - **2** = 12 Vdc
  - **3** = 28 Vdc
  - **8** = 24 Vdc

- **Coil Voltage**
  - **08** = SMA Female

- **Connectors**
  - **02** = No Indicators*
  - **22** = SPST Indicators

- **Indicators**
  - **A** = TTL High
  - **E** = BCD Decoding

* Declared only with Circuit Options

**RF Characteristics**

- **Frequency**
  - DC-18 GHz
- **Power**
  - Low/Medium Power
- **Cycle Life**
  - 1M Life Cycles

**Part Number Example**

- **5A1 J - 4 2 08 A - ROHS**

*TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.*
**Specifications**

**Operating Voltage:**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc: 440 mA
- 24 Vdc: 225 mA
- 28 Vdc: 190 mA

**Switching Time:**
20 ms maximum

**Operating Temperature:**
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

**Mechanical Life, Cycles:**
1,000,000 minimum

**Vibration, Operating:**
10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
30G, 1/2 Sine, 11 ms

**Nominal Weight:**
15 oz. (425 g.)

* Performance and weight varies depending on selected options.

---

**Mechanical**

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>VSWR (max)</th>
<th>Isolation (dB (min))</th>
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</tr>
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<tbody>
<tr>
<td>DC-4</td>
<td>1.20</td>
<td>70</td>
<td>0.20</td>
</tr>
<tr>
<td>4-8</td>
<td>1.30</td>
<td>65</td>
<td>0.30</td>
</tr>
<tr>
<td>8-12.4</td>
<td>1.40</td>
<td>60</td>
<td>0.40</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.60</td>
<td>55</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

---

**Part Number Selector**

- **5A1 J - 4 2 08 03 A - ROHS**

  **Special Options**
  - J = 15 or 25 Pin ‘D’ Connector
  - 4 = Latching Self Cutoff
  - P = Power Plug
  - R = (-) Com
  - S = Epoxy Seal
  - T = -55° to +85° C

  **Actuator**
  - 2 = 12 Vdc
  - 3 = 28 Vdc
  - 8 = 24 Vdc

  **Coil Voltage**
  - 08 = SMA Female

  **Connectors**
  - 03 = No Indicators
  - 23 = SPST Indicators

  **Indicators**
  - A = TTL High
  - E = BCD Decoding

**TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.**

**For Electrical Schematic, see page # 3-21**
**Specifications**

- **Operating Voltage:**
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)

- **Coil Current (max. @ nom. Vdc & 25°C):**
  - 12 Vdc: 300 mA
  - 24 Vdc: 150 mA
  - 28 Vdc: 135 mA

- **Switching Time:**
  - 15 ms maximum

- **Operating Temperature:**
  - -25°C to +65°C (Standard)
  - -55°C to +85°C (Extended “T” Option)

- **Mechanical Life, Cycles:**
  - 1,000,000 minimum

- **Vibration, Operating:**
  - 10G RMS, 20-2000 Hz

- **Mechanical Shock, Non-Operating:**
  - 30G, 1/2 Sine, 11 ms

- **Nominal Weight:**
  - 7.0 oz. (198 g.)

*Performance and weight vary depending on selected options.*

---

**Mechanical**

- **RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>VSWR (max)</th>
<th>Isolation (dB)</th>
<th>Ins. Loss (dB)</th>
</tr>
</thead>
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<tr>
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<td>0.20</td>
</tr>
<tr>
<td>4-8</td>
<td>1.40</td>
<td>65</td>
<td>0.40</td>
</tr>
<tr>
<td>8-12.4</td>
<td>1.50</td>
<td>60</td>
<td>0.60</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.80</td>
<td>60</td>
<td>0.80</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.
5C1 Latching Unterminated/Terminated | SMA

**Specifications**

- **Operating Voltage:**
  - 12 Vdc (11-14 Vdc)
  - 24 Vdc (20-28 Vdc)
  - 28 Vdc (24-32 Vdc)

- **Coil Current (max. @ nom. Vdc & 25°C):**
  - 12 Vdc: 650 mA
  - 24 Vdc: 500 mA
  - 28 Vdc: 500 mA

- **Switching Time:**
  - 30 ms maximum

- **Operating Temperature:**
  - -25°C to +65°C (Standard)
  - -55°C to +85°C (Extended “T” Option)

- **Mechanical Life, Cycles:**
  - 1,000,000 minimum

**Mechanical**

- **Vibration, Operating:**
  - 10G RMS, 20-2000 Hz

- **Mechanical Shock, Non-Operating:**
  - 30G, 1/2 Sine, 11 ms

- **Nominal Weight:**
  - 17.5 oz. (496 g.)

*Performance and weight varies depending on selected options.

---

**RF Characteristics**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
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<td>65</td>
<td>0.40</td>
</tr>
<tr>
<td>8-12.4</td>
<td>1.50</td>
<td>60</td>
<td>0.60</td>
</tr>
<tr>
<td>12.4-18</td>
<td>1.80</td>
<td>60</td>
<td>0.80</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

---

**Part Number Selector**

- **Part Number:** 5C1
- **J = 4**
- **2 08 02 A - ROHS**

**Special Options**

- **J = 15 or 25 Pin ‘D’ Connector**
- **S = Epoxy Seal**
- **T = -55° to +85° C**

**Actuator**

- **4 = Latching Self Cutoff**

**Coil Voltage**

- **2 = 12 Vdc**
- **3 = 28 Vdc**
- **8 = 24 Vdc**

**Connectors**

- **08 = SMA Female**

**Indicators**

- **02 = No Indicators**
- **03 = No Indicators**

**Circuit Options**

- **A = TTL High**
- **E = BCD Decoding**
- **N = CANBus**

- **53 = SPST Indicators**

* Declared only with Circuit Options

** Only used with CANBus Option

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.

---

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5E1 Normally Open | SMA

**Specifications**

**Operating Voltage:**
- 12 Vdc (11-14 Vdc)
- 24 Vdc (20-28 Vdc)
- 28 Vdc (24-32 Vdc)

**Coil Current (max. @ nom. Vdc & 25°C):**
- 12 Vdc: 300 mA
- 24 Vdc: 160 mA
- 28 Vdc: 135 mA

**Switching Time:**
- 20 ms maximum

**Operating Temperature:**
- -25°C to +65°C (Standard)
- -55°C to +85°C (Extended “T” Option)

**Mechanical Life, Cycles:**
- 1,000,000 minimum

**Vibration, Operating:**
- 10G RMS, 20-2000 Hz

**Mechanical Shock, Non-Operating:**
- 50G, 1/2 Sine, 11 ms

**Nominal Weight**:
- 20.0 oz. (198 g.)

* Performance and weight varies depending on selected options.

**RF Characteristics**

<table>
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<th>Frequency (GHz)</th>
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</tr>
<tr>
<td>12-18</td>
<td>2.00</td>
<td>55</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Performance may vary depending on selected options.

---

**Part Number Selector**

5E1

- **J** = 15 or 25 Pin ‘D’ Connector
- **S** = Epoxy Seal
- **T** = -55° to +85° C

- **5** = Normally Open

- **208** = SMA Female

- **02** = No Indicators*

- **A** = TTL High
- **E** = BCD decoding

* Declared only with Circuit Options

TTL option includes suppression diode. Other options may be available and all combinations may not be possible. Please consult with factory.