**SP10T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA**

The SEMS-4074-SP10T-SMA is an SP10T Electromechanical Relay Switch that operates over a wide frequency band from DC to 18GHz with up to 240 Watts of input power (CW) handling capability. Rated for 2M life cycles for high reliability operation, this design uses a Normally Open Actuator with a break before make configuration. The switch exhibits exceptional electrical performance specified from 0.2 dB max for insertion loss and from 80 dB min for isolation, and guaranteed over -40°C to +85°C. The assembly requires an operating voltage of +28Vdc and is certified as RoHS and REACH compliant. External connectors include solder terminals and SMA female connectors.

### Electrical Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>DC</td>
<td></td>
<td>18</td>
<td>GHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td></td>
<td></td>
<td>Ohms</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>24</td>
<td>28</td>
<td>30</td>
<td>Volts</td>
</tr>
<tr>
<td>Actuating Current @ 28 Volts</td>
<td>102</td>
<td></td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>VSWR</td>
<td>1.7:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.7</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Isolation</td>
<td>55</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Input Power (CW)</td>
<td>100</td>
<td></td>
<td></td>
<td>Watts</td>
</tr>
<tr>
<td>Switching Time</td>
<td>15</td>
<td></td>
<td></td>
<td>ms</td>
</tr>
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</table>

### Performance by Frequency

<table>
<thead>
<tr>
<th>Description</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>DC</td>
<td>3</td>
<td>8</td>
<td>12.4</td>
<td>12.4 - 15.5</td>
<td>15.5 - 18</td>
</tr>
<tr>
<td>VSWR, Max</td>
<td>1.2:1</td>
<td>1.3:1</td>
<td>1.4:1</td>
<td>1.5:1</td>
<td>1.7:1</td>
<td></td>
</tr>
<tr>
<td>Insertion Loss, Max</td>
<td>0.2</td>
<td>0.3</td>
<td>0.4</td>
<td>0.5</td>
<td>0.7</td>
<td>dB</td>
</tr>
<tr>
<td>Isolation, Min</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>60</td>
<td>55</td>
<td>dB</td>
</tr>
<tr>
<td>Power In, Max (CW)</td>
<td>240</td>
<td>150</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>Watts</td>
</tr>
</tbody>
</table>

Electrical Specification Notes:
Average Power and Actuating Current values at 25°C.

### Mechanical Specifications

**Size**
- Length: 1.97 in [50.04 mm]
- Width/Diameter: 2.5 in [63.5 mm]
- Height: 2.5 in [63.5 mm]
- Weight: 0.6655 lbs [301.87 g]
- Package Type: Connectorized
- Operating Life: 2,000,000 Cycles
Connectors
RF Connector Type: SMA Female
RF Connector Specification: MIL C 39012
Control Connector: Solder Pin

Mechanical Specification Notes:
Solder Pins: 250°C max/30sec.

Environmental Specifications
Temperature
Operating Range: -40 to +85 deg C
Storage Range: -55 to +85 deg C
Construction: Splashproof
Humidity: MIL-DTE-3928E, Cond.B
Vibration: MIL-STD-202, Method 204D, Cond.D (survival)

Environmental Specification Notes:
Environmental specifications are guaranteed but not tested.

Compliance Certifications (see product page for current document)

Plotted and Other Data
Notes:
• Values shown are typical at 25°C.
Typical Performance Data

**Insertion Loss**

![Insertion Loss Graph]

**VSWR**

![VSWR Graph]
SP10T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: SP10T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA SEMS-4074-SP10T-SMA


The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.
SEMS-4074-SP10T-SMA
DATA SHEET

FAIRVIEW MICROWAVE INC.
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

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NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

FAIRVIEW MICROWAVE
SEMS-4074-SP10T-SMA
0 - 18 GHz
Un: 28 V
LOT: ----