DETAIL SPECIFICATION SHEET

SWITCHES, RADIO-FREQUENCY TRANSMISSION LINE (COAXIAL)  
(ELECTRICALLY OPERATED) CLASS 5, 1P2T

This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

Requirements for acquiring the switches described herein  
shall consist of this specification sheet and MIL-DTL-3928.

FIGURE 1. Switch configuration and schematic.
### Dimensions

<table>
<thead>
<tr>
<th>Letter</th>
<th>Inches</th>
<th>Millimeters</th>
<th>Letter</th>
<th>Inches</th>
<th>Millimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1.34 ± .030</td>
<td>33.3 ± 0.8</td>
<td>K</td>
<td>.120 ± 0.10</td>
<td>2.79 ± 0.69</td>
</tr>
<tr>
<td>B</td>
<td>2.15 max</td>
<td>54.6</td>
<td>L</td>
<td>.220 ± 0.10</td>
<td>5.33 ± 1.36</td>
</tr>
<tr>
<td>C</td>
<td>1.81 ± .020</td>
<td>45.5 ± 0.5</td>
<td>M</td>
<td>.25 ± 0.030</td>
<td>5.6 ± 0.71</td>
</tr>
<tr>
<td>D</td>
<td>.35 max</td>
<td>8.9</td>
<td>N</td>
<td>.308 ± 0.032</td>
<td>7.01 ± 0.86</td>
</tr>
<tr>
<td>E</td>
<td>.09 ± .030</td>
<td>1.5 ± 0.3</td>
<td>P</td>
<td>.25 ± 0.030</td>
<td>5.6 ± 0.71</td>
</tr>
<tr>
<td>F</td>
<td>.28 ± .030</td>
<td>6.4 ± 0.15</td>
<td>R</td>
<td>.50 ± 0.032</td>
<td>11.88 ± 0.51</td>
</tr>
<tr>
<td>G</td>
<td>.670 ± .010</td>
<td>16.76 ± 0.4</td>
<td>S</td>
<td>.17 ± 0.030</td>
<td>3.6 ± 0.15</td>
</tr>
<tr>
<td>H</td>
<td>.88 ± .030</td>
<td>21.6 ± 0.6</td>
<td>T</td>
<td>.16 ± 0.030</td>
<td>3.3 ± 0.4</td>
</tr>
<tr>
<td>J</td>
<td>.440 ± .010</td>
<td>10.92 ± 0.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1. Dimensions are in inches.
2. Metric equivalents may be determined using 1.00 inch = 25.4 mm.

**FIGURE 1.** Switch configuration and schematic, part or identifying numbers M3928/30-01. Continued
## Table I. Electrical and performance characteristics.

| Part or identifying number | Housing | Frequency range GHz | Frequency rating GHz | VSWR Max | Insertion loss (dB) Max | Isolation (dB) Min | Switch time (ms) Max | Position indication circuit and rating | Life cycles x 1000 Min 3/ | Fail-safe or latching | Operating current (A) Max | Holding current (A) Max | Nominal operating voltage | Pickup voltage (less than) | Dropout voltage (less than) | Power and indicator connector | Weight (oz) Max |
|-----------------------------|---------|---------------------|----------------------|----------|-------------------------|-------------------|---------------------|--------------------------------------|-----------------------------|-----------------------------|--------------------------|--------------------------|------------------------|----------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| M3928/30-01 NS              | I       | DC -4.0             | 1.2:1                | 0.1      | 80                      |                   | 20                  | 0.5 A at 30 Vdc        | 1000                        | L                          | ---                      | 23 ± 5% Vdc             | 20Vdc                  | ---                         | 8 solder terminals          | 5                          |
|                             |         | 4.0-12.4            | 1.3:1                | 0.2      | 70                      |                   |                     |                        |                             |                            |                         |                         |                        |                             |                            |                             |                            |                             |
|                             |         | 12.4-18.0           | 1.5:1                | 0.3      | 60                      |                   |                     |                        |                             |                            |                         |                         |                        |                             |                            |                             |                            |                             |

1/ Average RF power: 15 Watts 0 to 10 GHz; 12 Watts 10 to 15 GHz; 10 Watts 15 to 18 GHz.
2/ Voltage rating: 350 Volts RMS.
3/ RF contact power switching 100 mW max.
REQUIREMENTS:

Dimensions and configuration: See figure 1.
Termination: Open.
Nominal impedance: 50 ohms.

RF connections: Connector shall be SMA Female configuration and shall meet the requirement of MIL-PRF-39012. The center contact shall be captivated and shall be capable of withstanding an axial force of 10 pounds minimum.

Electrical and performance characteristics: See table I.

RF contacts: Break before make.
Indicator contacts: Make before break.

Operating temperature: -55°C to +95°C.
Storage: -65°C to +125°C.

Drive Circuits:
 Driver Voltage: 4.5 to 5.5 Vdc.
 Driver current 70 MA max.

Logic "0" Voltage: 0 to .4 Vdc
Logic "1" Voltage: 2.4 To 5.5 Vdc with pulse width 20 ms Minimum.


Referenced documents: In addition to MIL-DTL-3928, this document references the following
MIL-PRF-39012
MIL-STD-202

Custodians: Preparing activity:
 Army - CR DLA - CC
 Navy - EC (Project 5985-2014-033)
 Air Force - 85
 DLA - CC

Review activities:
 Army - MI
 Navy - AS, MC, OS
 Air Force – 19, 99

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