

**Features**
- Isolation: 42dB@ 12GHz
- Insertion Loss: 1.3dB @ 12GHz
- Reflective design
- Input/Output: 50 Ohm
- Die Size: 1.5x0.7x 0.1 mm

**Typical Applications**
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

**Electrical Specifications**
TA = +25°C, Vctl = 0/-5V

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>DC-12</td>
<td></td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>1</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Isolation</td>
<td>45</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Return Loss (ON State)</td>
<td>20</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Input 1dB Compression</td>
<td>25</td>
<td></td>
<td></td>
<td>dBm</td>
</tr>
<tr>
<td>Switching Speed</td>
<td>15</td>
<td></td>
<td></td>
<td>ns</td>
</tr>
</tbody>
</table>
MM114 GaAs pHEMT MMIC

Absorptive SP4T SWITCH
DC-12GHz

Insertion Loss

Isolation

RFC Return Loss (ON State)

RF1 Return Loss (ON State)

RFC

RF1
**Pad Description**

<table>
<thead>
<tr>
<th>PAD</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RFC</td>
<td>DC coupling 50Ω Impedance. IF RF voltage is not 0V, blocking capacitor is required externally.</td>
</tr>
<tr>
<td>2, 5</td>
<td>RF1, RF2</td>
<td>DC coupling 50Ω Impedance. IF RF voltage is not 0V, blocking capacitor is required externally.</td>
</tr>
<tr>
<td>3, 4</td>
<td>V1, V2</td>
<td>When V1=-5V and V2=0V, then RF1 is “ON” state and RF2 is “OFF” state. When V1=0V and V2=-5V, then RF1 is “OFF” state and RF2 is “ON” state.</td>
</tr>
<tr>
<td>Die Bottom</td>
<td>GND</td>
<td>Die bottom must be connected to RF/DC ground</td>
</tr>
</tbody>
</table>
Assembly Drawing

Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:
1. RF input power: +27dBm
2. Storage temperature: -65°C to +175°C
3. Operating temperature: -55°C to +85°C