Features
• Isolation: 32dB@ 40GHz
• Insertion Loss: 0.8dB@ 40GHz
• Reflective design
• Input/Output: 50 Ohm
• Die Size: 1x0.68x 0.1 mm

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

Functional Block Diagram

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-40</td>
<td></td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.8</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Isolation</td>
<td>25</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 (P1dB)</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>
GaAs pHEMT MMIC
Reflective Single-pole Single-throw Switch
DC-40GHz

**Insertion Loss**

**Isolation**

**RF1 Return Loss (ON State)**

**RF2 Return Loss (ON State)**
**Outline Drawing:**
All Dimensions in mm

<table>
<thead>
<tr>
<th>PAD</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 3</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>2</td>
<td>V1</td>
<td>When V1=5V, then RF1 and RF2 are “ON” state; When V1=0V, then “OFF” 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>
**Notes:**
1. Die thickness: 100μm
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