Features

- Supports up to 40 W Power
- Low Insertion Loss:
  - 0.2 dB @ 2.7 GHz
  - 0.4 dB @ 8.0 GHz
- High Isolation:
  - 55 dB to 2.7 GHz
- RoHS* Compliant

Description

A broadband, high linearity, medium power shunt switch element in a 2.6 x 1.5 mm DFN package.

This PIN diode switch element is designed for wireless telecommunications infrastructure and test instrument applications. It is also suited for other applications in 0.05 ~ 10 GHz.

Electrical Specifications: $T_A = +25^\circ C$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown Voltage ($V_B$)</td>
<td>$I_R = 10 \mu A$</td>
<td>V</td>
<td>300</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
| Insertion Loss ($I_L$)            | $V_R = 50 \text{ V}$
  - 2.3 - 2.7 GHz
  - <6.0 GHz | dB       | —     | 0.20 | 0.40 | 0.50 |
| Isolation ($I_{ISOL}$)            | $V_R = -10 \text{ V}$
  - 2.3 - 2.7 GHz
  - <6.0 GHz | dB       | 50    | 55   | 40   | —    |
| Input / Output Return Loss ($R_L$) | $I_F = 100 \text{ mA}$
  - 2.3 - 2.7 GHz
  - <6.0 GHz | dB       | 20    | 25   | 16   | —    |
| Minority Carrier Lifetime ($T_L$) | $I_F = 10 \text{ mA}, I_R = 6 \text{ mA, @ 50\%}$ | ns    | —    | 3000 | —    |

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown Voltage</td>
<td>300 V</td>
</tr>
<tr>
<td>Forward Current</td>
<td>200 mA</td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>9°C/W</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>+175°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +150°C</td>
</tr>
<tr>
<td>Assembly Temperature</td>
<td>+260°C, Per JEDEC STD-J-20C</td>
</tr>
</tbody>
</table>

Printed Circuit Board Layout

Junction Temperature vs. Power
Mounted on Heatsink, +25°C, 1.3 GHz

Input Return Loss

Insertion Loss

Isolation\(^1\)

Series Resistance vs. Bias, 500 MHz

1. Resonant frequencies vary with PCB layout. This performance measured on 20 mils Rogers RO3006 and with the printed circuit board layout shown above.
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