Ka-Band MMIC Amplifier

TLCA06981

- 16 to 30 GHz
- Gain > 10 dB
- 2 stage
- Unconditionally stable

Description and Applications

The TLCA06981 is a broadband, two-stage, general purpose MMIC amplifier. A 0.25μm PHEMT process was chosen to provide 10dB of gain over 16 to 30 GHz with low power consumption. The broadband gain provided by the TLCA06981 makes it an excellent candidate for use in radar or communication systems.

Performance Summary

<table>
<thead>
<tr>
<th>Parameter (@ 25°)</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency GHz</td>
<td>16</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>Gain (dB)</td>
<td>10</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>DC Power (mW)</td>
<td>-</td>
<td>360</td>
<td>460</td>
</tr>
</tbody>
</table>

Typical Operating Conditions

V_{gs} = -0.30V  V_{ds} = 4.5V
Input Power Level = 10 dBm

Assembly

Ti/Pt/Au metallization is used for the bond pads and backside which is compatible with eutectic die attach and thermocompression or thermonidal bonding. Either 3 mil Au ribbon or 1 mil Au wire may be used to connect the MMW and DC pads to the system.

Additional DC bypass capacitors (22 pF & 0.1 μF) are recommended but not necessary.

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