AMPLIFIER/DOUBLER/AMPLIFIER

ADA-1020

Features
- Input 10.0 to 20.0 GHz
- Output 20.0 to 40.0 GHz
- +20 dBm Typical Output Power

Electrical Specifications - Specifications guaranteed from -30 to +70°C, measured in a 50-Ohm system.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>INPUT (GHz)</th>
<th>OUTPUT (GHz)</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input (dBm)</td>
<td>10.0-20.0</td>
<td></td>
<td>+5</td>
<td></td>
<td>+10</td>
</tr>
<tr>
<td>F(in)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Converted Power (dBm)</td>
<td>20.0-40.0</td>
<td>+15</td>
<td></td>
<td>+20</td>
<td></td>
</tr>
<tr>
<td>2F(out)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suppressions (dBc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F(in) Fundamental</td>
<td>10.0-20.0</td>
<td>See Plots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3F(out) Third Harmonic</td>
<td>30.0-40.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bias Requirements (mA) \(^1\)
- +5 Volts DC               | 400         | 500          |
- -5 Volts DC               | 5           | 20           |

\(^1\)It is required that the negative bias be applied before or concurrent with the positive bias. A heat sink is required.

Part Number Options

<table>
<thead>
<tr>
<th>Package Style(s)</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM, CMM, CMV, CMMV EOL</td>
<td>ADA-1020 CM</td>
</tr>
</tbody>
</table>

NOTE: ADA-1020 is approaching EOL. Please see this letter for LTB and recommended part information.

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Input 10.0 to 20.0 GHz
Output 20.0 to 40.0 GHz

Figure 1. Schematic.

Typical Performance

Doubled Output Power (dBm)

Fundamental Suppression (dBc)

3rd Harmonic Suppression (dBc)

4th Harmonic Suppression (dBc)
AMPLIFIER/DOUBLER/AMPLIFIER

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AMES-1020

Input 10.0 to 20.0 GHz
Output 20.0 to 40.0 GHz

Typical Performance (cont)

DATA SHEET NOTES:

1. Maximum input power without damage is +16 dBm at +70°C.
2. A heat sink is required for sustained operation.
3. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.

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