Features

- Input Frequency 1.5 to 8.0 GHz
- Output Frequency 3.0 to 16.0 GHz
- Input Drive Level +10 dBm (nominal)
- Microstrip Interface

Description

The FDC2310 is a passive bridge diode frequency doubler, designed for use in military, commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband soft dielectric baluns to attain excellent performance. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDC2310</td>
<td>Open Carrier</td>
</tr>
</tbody>
</table>

Electrical Specifications: \( Z_0 = 50\,\Omega \), \( P_{in} = +10 \,\text{dBm} \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Typical</th>
<th>Guaranteed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSB Conversion Loss (max)</td>
<td>( f_{in} = 1.5 \text{ to } 8.0 ,\text{GHz} )</td>
<td>dB</td>
<td>11</td>
<td>14.0</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14.5</td>
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<tr>
<td>Fundamental Suppression (min)</td>
<td>( f_{in} = 1.5 \text{ to } 8.0 ,\text{GHz} )</td>
<td>dBC</td>
<td>35</td>
<td>19.5</td>
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<tr>
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<td>19</td>
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<tr>
<td>Third Harmonic Suppression (min)</td>
<td>( f_{in} = 1.5 \text{ to } 8.0 ,\text{GHz} )</td>
<td>dBC</td>
<td>40</td>
<td>20</td>
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<td>18</td>
</tr>
<tr>
<td>Input VSWR</td>
<td>( f_{in} = 1.5 \text{ to } 8.0 ,\text{GHz} )</td>
<td></td>
<td>2.0:1</td>
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</tr>
</tbody>
</table>
Typical Performance Curves

Conversion Loss

Input VSWR

Fundamental Suppression
FDC2310
Open Carrier Frequency Doubler
For Microwave Telecommunications

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>-54°C to +100°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +100°C</td>
</tr>
<tr>
<td>Peak Input Power</td>
<td>+23 dBm max @ +25°C</td>
</tr>
<tr>
<td></td>
<td>+20 dBm max @ +100°C</td>
</tr>
<tr>
<td>Peak Input Current</td>
<td>50 mA DC</td>
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</tbody>
</table>

Outline Drawing: Open Carrier

* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

Third Harmonic Suppression

Weight: 0.5 gram (0.018 oz.) max
Open Carrier Frequency Doubler
For Microwave Telecommunications

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