Features

- **INPUT:** 3.5 TO 8.0 GHz
- **OUTPUT:** 7.0 TO 16.0 GHz
- **INPUT DRIVE LEVEL** +10 dBm (NOMINAL)
- **MICROSTRIP INTERFACE**

Description

The FDC2710 is a passive bridge diode frequency doubler, designed for use in the high volume commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband baluns to attain excellent performance. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in semi-automated and automated assembly. 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>FDC2710</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></td>
<td></td>
<td></td>
<td>+25°C</td>
<td>-40º to +85ºC</td>
</tr>
<tr>
<td>SSB Conversion Loss (max)</td>
<td>( f_i = 3.5 ) to 4.5 GHz</td>
<td>dB</td>
<td>13.0</td>
<td>14.0</td>
</tr>
<tr>
<td></td>
<td>( f_i = 4.5 ) to 7.0 GHz</td>
<td>dB</td>
<td>10.2</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td>( f_i = 7.0 ) to 8.0 GHz</td>
<td>dB</td>
<td>11.2</td>
<td>13.5</td>
</tr>
<tr>
<td>Fundamental Suppression (min)</td>
<td>( f_i = 3.5 ) to 6.5 GHz</td>
<td>dBc</td>
<td>40</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>( f_i = 6.5 ) to 8.0 GHz</td>
<td>dBc</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Third Harmonic Suppression (min)</td>
<td>( f_i = 6.5 ) to 8.0 GHz</td>
<td>dBc</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

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Typical Performance Curves

Conversion Loss

Third Harmonic Suppression

Conversion Loss

Third Harmonic Suppression

Input VSWR

Input VSWR
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>
</tr>
</tbody>
</table>

Fundamental Suppression

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

Outline Drawing: Open Carrier

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

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