Features

- **INPUT:** 50 TO 3300 MHz
- **OUTPUT:** 100 TO 6600 MHz
- **INPUT DRIVE LEVEL:** +10 dBm (NOMINAL)
- **HERMETICALLY-SEALED PACKAGE**

Description

The FD26 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 and/or ferrite baluns to attain excellent performance. The use of high temperature solder assembly processes used internally makes it ideal for use in manual and semi-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>FD26</td>
<td>TO-8</td>
</tr>
<tr>
<td>FD26C</td>
<td>SMA Connectorized</td>
</tr>
<tr>
<td>FD26E</td>
<td>Flatpack</td>
</tr>
<tr>
<td>SFD26</td>
<td>Surface Mount</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>+25ºC</td>
<td>-54º to +85ºC*</td>
</tr>
<tr>
<td>SSB Conversion Loss (max)</td>
<td>( f_{in} = 5 ) to 400 MHz</td>
<td>dB</td>
<td>12.0</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>( f_{in} = 400 ) to 2500 MHz</td>
<td>dB</td>
<td>12.0</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>( f_{in} = 2500 ) to 3000 MHz</td>
<td>dB</td>
<td>12.5</td>
<td>14.0</td>
</tr>
<tr>
<td></td>
<td>( f_{in} = 3000 ) to 3300 MHz</td>
<td>dB</td>
<td>13.5</td>
<td>14.5</td>
</tr>
<tr>
<td>Fundamental Suppression (min)</td>
<td>( f_{in} = 50 ) to 500 MHz</td>
<td>dBc</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>( f_{in} = 500 ) to 3300 MHz</td>
<td>dBc</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Third Harmonic Suppression</td>
<td>( f_{in} = 50 ) to 200 MHz</td>
<td>dBc</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>( f_{in} = 200 ) to 3300 MHz</td>
<td>dBc</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Input VSWR</td>
<td>( f_{in} = 50 ) to 2500 MHz</td>
<td></td>
<td>1.5:1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( f_{in} = 2500 ) to 3300 MHz</td>
<td></td>
<td>2.0:1</td>
<td></td>
</tr>
</tbody>
</table>

* The FD26C specification limits apply at 0ºC to +50ºC.
Typical Performance Curves

Conversion Loss vs. Frequency

Fundamental Suppression vs. Frequency

Third Harmonic Suppression vs. Frequency

Input VSWR vs. Frequency
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>
</tbody>
</table>

Outline Drawing: TO-8 *

Weight: 2 grams (0.07 oz.) max

Outline Drawing: Flatpack *

Weight: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *

Weight: 21 grams (0.74 oz.) max

Outline Drawing: Surface Mount *

Weight: 2 grams (0.07 oz.) max

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