DESCRIPTION

- 60 MHz SAW bandpass filter with 7.8 MHz bandwidth.
- 35.1 x 20.6 mm DIP package.
- RoHS compliant.

TYPICAL PERFORMANCE

Horizontal: Frequency : 4 MHz/div
Vertical from Top: Relative Magnitude : 10 dB/div
Relative Magnitude : 1 dB/div
Phase Linearity : 2 deg/div
Group Delay Deviation : 50 ns/div

S11

S22
SPECIFICATION

<table>
<thead>
<tr>
<th>Parameter 1</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Frequency (F&lt;sub&gt;c&lt;/sub&gt;)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>59.70</td>
<td>60.00</td>
<td>60.30</td>
<td>MHz</td>
</tr>
<tr>
<td>1dB Bandwidth&lt;sup&gt;2&lt;/sup&gt;</td>
<td>7.80</td>
<td>8.30</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>3dB Bandwidth&lt;sup&gt;2&lt;/sup&gt;</td>
<td>-</td>
<td>8.90</td>
<td>9.20</td>
<td>MHz</td>
</tr>
<tr>
<td>55dB Bandwidth&lt;sup&gt;2&lt;/sup&gt;</td>
<td>-</td>
<td>11.40</td>
<td>12.20</td>
<td>MHz</td>
</tr>
<tr>
<td>Device Delay</td>
<td>-</td>
<td>1.85</td>
<td>3.00</td>
<td>us</td>
</tr>
<tr>
<td>Insertion Loss (over 1dB BW)</td>
<td>-</td>
<td>31.5</td>
<td>34</td>
<td>dB</td>
</tr>
<tr>
<td>Passband Amplitude Ripple&lt;sup&gt;3&lt;/sup&gt;</td>
<td>-</td>
<td>0.30</td>
<td>0.50</td>
<td>dB p-p</td>
</tr>
<tr>
<td>Passband Phase Ripple&lt;sup&gt;3&lt;/sup&gt;</td>
<td>-</td>
<td>1.5</td>
<td>2.0</td>
<td>deg p-p</td>
</tr>
<tr>
<td>Triple Travel and Spurious</td>
<td>55</td>
<td>60</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Input VSWR&lt;sup&gt;4&lt;/sup&gt;</td>
<td>-</td>
<td>1.3</td>
<td>1.5</td>
<td>:1</td>
</tr>
<tr>
<td>Output VSWR&lt;sup&gt;4&lt;/sup&gt;</td>
<td>-</td>
<td>1.3</td>
<td>1.5</td>
<td>:1</td>
</tr>
<tr>
<td>Source and Load Impedance</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>Ω</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>°C</td>
</tr>
</tbody>
</table>

Notes:
1. Average of lower & upper 3 dB frequencies.
2. Referenced to the insertion loss of the device.
3. Defined as the difference between highest and lowest levels over 56.1 to 63.9 MHz.
4. Measured at 60 MHz at Ambient Temperature only.

MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperature Range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-25</td>
<td>85</td>
<td>°C</td>
</tr>
<tr>
<td>Input Power Level</td>
<td>-</td>
<td>13</td>
<td>dBm</td>
</tr>
</tbody>
</table>

MATCHING CIRCUIT

```
Input 50 Ω  Single ended

L<sub>p1</sub> [180 nH]  R<sub>p1</sub> [68 Ω]

22  10

R<sub>p2</sub> [68 Ω]  L<sub>p2</sub> [180 nH]

Output 50 Ω  Single ended
```

Typical component values:
- L<sub>p1</sub> = 180 nH
- L<sub>p2</sub> = 180 nH
- R<sub>p1</sub> = 68 Ω
- R<sub>p2</sub> = 68 Ω

Notes:
- Suggest the use of 2% tolerance matching components.
- Tuning values shown are for reference only. Optimum values may change depending upon board layout.
60 MHz SAW Filter
7.8 MHz bandwidth
Part Number SF0060CN02291T

PACKAGE OUTLINE

Units: mm

Tolerances are ±0.15 mm except for the overall length and width, which are nominal values.

Pin Configuration:

Input:  3
Input Ground:  22
Output:  15
Output Ground:  10
Case Ground:  All other pins

All specifications are believed to be accurate and reliable. However, Spectrum Microwave reserves the right to make changes without notice.

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