DESCRIPTION

- 127.5 MHz high performance SAW filter with 20 MHz bandwidth.
- 24 x 9 mm LCC package.
- RoHS compliant.

TYPICAL PERFORMANCE

Horizontal: Frequency : 8 MHz/div
Vertical from Top: Relative Magnitude : 10 dB/div
Relative magnitude : 1 dB/div
Phase : 5 deg/div
Group Delay : 50 ns/div

S11 (87.5 to 167.5 MHz)  S22 (87.5 to 167.5 MHz)
SPECIFICATION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Frequency ($F_c$)</td>
<td>127.50</td>
<td></td>
<td></td>
<td>MHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>19.8</td>
<td></td>
<td>22.0</td>
<td>dB</td>
</tr>
<tr>
<td>Amplitude Ripple (118 to 137 MHz) at 23°C</td>
<td>0.8</td>
<td>1.2</td>
<td></td>
<td>dB p-p</td>
</tr>
<tr>
<td>Phase Linearity (118 to 137 MHz) at 23°C</td>
<td>4</td>
<td>8</td>
<td></td>
<td>deg p-p</td>
</tr>
<tr>
<td>Group Delay Deviation (118 to 137 MHz) at 23°C</td>
<td>35</td>
<td>100</td>
<td></td>
<td>ns p-p</td>
</tr>
<tr>
<td>Amplitude Ripple (118 to 137 MHz)</td>
<td>1.4</td>
<td>2.0</td>
<td></td>
<td>dB p-p</td>
</tr>
<tr>
<td>3 dB Bandwidth</td>
<td>20.75</td>
<td>20.95</td>
<td></td>
<td>MHz</td>
</tr>
<tr>
<td>35 dB Bandwidth</td>
<td>22.17</td>
<td>22.38</td>
<td>MHz</td>
<td></td>
</tr>
<tr>
<td>Rejection at 139.8 MHz</td>
<td>35</td>
<td>50</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Ultimate Rejection</td>
<td>40</td>
<td>53</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Absolute Delay</td>
<td>2.14</td>
<td>2.20</td>
<td></td>
<td>us</td>
</tr>
<tr>
<td>System Source and Load Impedance</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>Ω</td>
</tr>
</tbody>
</table>

Notes:  
1. Center frequency = (Lower 3dB value + Upper 3dB value)/2.
2. Insertion Loss is defined as the minimum loss value within the passband.
3. Parameters are measured relative to the Insertion Loss.
4. Parameter is measured over the operating temperature range.

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>-40</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

Typical component values:  
$L_s1 = 33 \text{ nH}$  
$L_s2 = 33 \text{ nH}$  
Minimum $Q=40$

Notes:  
1. Recommend 2% tolerance matching components.
2. Optimum values may differ from these when using a different fixture or board layout. The values shown here are intended as a guide only.
127.5 MHz SAW Filter
20 MHz Bandwidth
Part Number: SF0127CN02333S

PACKAGE OUTLINE

SUGGESTED FOOTPRINT

Units: mm

Dimensions are nominal in mm. All tolerances are ±0.15 mm except those shown.

Pad Configuration:
- Input: 1
- Input Return: 10
- Output: 6
- Output Return: 5
- Ground: 2, 3, 4, 7, 8, 9

Package Material:
- Body: Al₂O₃ ceramic
- Lid: Kovar, Ni plated
- Terminations: Au plating 1 µm min, over a 1.3-8.9 µm Ni plating

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

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