DESCRIPTION

- 160 MHz SAW bandpass filter with 9.5 MHz bandwidth.
- 13.3 x 6.5 mm SMP.
- RoHS compliant.

TYPICAL PERFORMANCE

Horizontal: Frequency : 6 MHz/div
Vertical from top: Relative Magnitude : 10 dB/div
Relative magnitude : 1 dB/div
Phase Linearity : 5 deg/div
Group Delay Deviation : 100 ns/div

S11 (130 to 190 MHz) S22 (130 to 190 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 (Fc) (^1)</td>
<td>159.7</td>
<td>160.0</td>
<td>160.3</td>
<td>MHz</td>
</tr>
<tr>
<td>Insertion Loss at Fc</td>
<td>-</td>
<td>19</td>
<td>21</td>
<td>dB</td>
</tr>
<tr>
<td>1 dB Passband Width</td>
<td>9.5</td>
<td>10.2</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Lower 1dB Frequency</td>
<td>-</td>
<td>154.9</td>
<td>155.2</td>
<td>MHz</td>
</tr>
<tr>
<td>Upper 1dB Frequency</td>
<td>164.7</td>
<td>165.1</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Lower 30 dB Band Edge</td>
<td>152.0</td>
<td>152.4</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Upper 30 dB Band Edge</td>
<td>-</td>
<td>167.6</td>
<td>168.0</td>
<td>MHz</td>
</tr>
<tr>
<td>Passband Amplitude Ripple (^2)</td>
<td>-</td>
<td>0.4</td>
<td>0.5</td>
<td>dB p-p</td>
</tr>
<tr>
<td>Passband Group Delay Ripple (^2)</td>
<td>-</td>
<td>50</td>
<td>80</td>
<td>ns p-p</td>
</tr>
<tr>
<td>Rejection (10 to 152 MHz)</td>
<td>45</td>
<td>50</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Rejection (168 to 250 MHz)</td>
<td>45</td>
<td>50</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>°C</td>
</tr>
<tr>
<td>Source / Load Impedance</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>Ω</td>
</tr>
<tr>
<td>Temperature Coefficient of Frequency</td>
<td>-</td>
<td>-94</td>
<td>-</td>
<td>ppm/°C</td>
</tr>
<tr>
<td>Substrate Material</td>
<td>YZ Lithium Niobate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Fixed reference frequency. All bandwidths are centered at this frequency.
2. Defined over Fc +/- 4 MHz.
3. Dependent on PC board layout.

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>20</td>
<td>30</td>
<td>°C</td>
</tr>
<tr>
<td>Input Power Level</td>
<td>10</td>
<td>-</td>
<td>dBm</td>
</tr>
</tbody>
</table>

MATCHING CIRCUIT

Input 50 Ω Single-ended

```
12                  6
```

Output 50 Ω Single-ended

```
11                  5
```

Note: External matching components are not required.
**PACKAGE OUTLINE**

![Package Outline Diagram]

**PACKAGE OUTLINE**

**SUGGESTED FOOTPRINT**

![Suggested Footprint Diagram]

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

**Units:** mm

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

**Pad Configuration:**
- Input: 12
- Input return: 11
- Output: 6
- Output return: 5
- Ground: 1, 2, 3, 4, 7, 8, 9, 10

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

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DSSF0160BA02299S Rev A 11-Mar-2010
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