DESCRIPTION

- 120 MHz SAW bandpass filter with 42 MHz bandwidth.
- 7 x 5 mm ceramic LCC package.
- RoHS compliant.

TYPICAL PERFORMANCE
## 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>-</td>
<td>120</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Insertion Loss (^2)</td>
<td>-</td>
<td>14.7</td>
<td>18</td>
<td>dB</td>
</tr>
<tr>
<td>Lower 1 dB Frequency</td>
<td>-</td>
<td>96.7</td>
<td>99</td>
<td>MHz</td>
</tr>
<tr>
<td>Upper 1 dB Frequency</td>
<td>141</td>
<td>142.2</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Passband Amplitude Variation (^3)</td>
<td>-</td>
<td>0.85</td>
<td>1.2</td>
<td>dB p-p</td>
</tr>
<tr>
<td>Passband Amplitude Variation (^4)</td>
<td>-</td>
<td>1.1</td>
<td>1.7</td>
<td>dB p-p</td>
</tr>
<tr>
<td>Phase Deviation from Linear (^3)</td>
<td>-</td>
<td>8</td>
<td>14</td>
<td>deg p-p</td>
</tr>
<tr>
<td>Group Delay Variation (^3)</td>
<td>-</td>
<td>70</td>
<td>150</td>
<td>ns p-p</td>
</tr>
<tr>
<td>Lower 40 dB Frequency</td>
<td>92</td>
<td>93.5</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Upper 40 dB Frequency</td>
<td>-</td>
<td>147.0</td>
<td>148</td>
<td>MHz</td>
</tr>
<tr>
<td>Absolute Delay</td>
<td>-</td>
<td>0.76</td>
<td>1.2</td>
<td>us</td>
</tr>
<tr>
<td>Source and Load Impedance</td>
<td>-</td>
<td>50</td>
<td>-</td>
<td>Ω</td>
</tr>
</tbody>
</table>

Notes:
1. Average of lower and upper 3 dB frequencies.
2. Measured at 120 MHz.
3. Evaluated over 100 to 140 MHz.
4. Evaluated over 99 to 141 MHz.

## 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>0</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

![Matching Circuit Diagram]

Typical component values:
- \(L_{p1} = 100\) nH
- \(L_{s1} = 82\) nH
- \(L_{s2} = 68\) nH
- \(C_{p2} = 21\) pF

Notes:
1. Recommend +/-2% tolerance matching components. Typical inductor Q=0.
2. Tuning values shown are for reference only. Optimum values may change depending upon board layout.
120 MHz SAW Filter
42 MHz Bandwidth
Part Number: SF0120BA03167S

---

**PACKAGE OUTLINE**

![Package Outline Diagram]

**SUGGESTED FOOTPRINT**

![Suggested Footprint Diagram]

**Units:** mm

Tolerances are ±0.15 mm except where indicated.

**Pad Configuration:**
- Input: 10
- Input Return: 12
- Output: 4
- Output Return: 6
- Ground: All other pads

---

Package Material:
- Body: $\text{Al}_2\text{O}_3$ 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.

© 2010 All rights reserved.