DESCRIPTION

- 140 MHz SAW bandpass filter with 0.04 MHz bandwidth.
- 7 x 5 mm ceramic LCC package, 10 pads.
- RoHS compliant.

TYPICAL PERFORMANCE

![Graph showing S11 and S22 characteristics](image)

Center = 140 MHz, 0.2 MHz/div (2.5 kHz incr)

S11 (139-141 MHz)

S22 (139-141 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 ) (^1)</td>
<td>-</td>
<td>140</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>Minimum Insertion Loss</td>
<td>-</td>
<td>3.2</td>
<td>6</td>
<td>dB</td>
</tr>
<tr>
<td>Amplitude Ripple (139.98-140.02 MHz) (^2)</td>
<td>-</td>
<td>0.4</td>
<td>3</td>
<td>dB p-p</td>
</tr>
<tr>
<td>Group Delay Ripple (139.98-140.02 MHz) (^2)</td>
<td>-</td>
<td>600</td>
<td>12000</td>
<td>ns p-p</td>
</tr>
<tr>
<td>3 dB Bandwidth (^2)</td>
<td>0.04</td>
<td>0.10</td>
<td>-</td>
<td>MHz</td>
</tr>
<tr>
<td>50 dB Bandwidth (^2)</td>
<td>-</td>
<td>0.41</td>
<td>0.45</td>
<td>MHz</td>
</tr>
<tr>
<td>Relative Attenuation (139-139.6 MHz) (^2)</td>
<td>50</td>
<td>55</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Relative Attenuation (140.4-141 MHz) (^2)</td>
<td>50</td>
<td>55</td>
<td>-</td>
<td>dB</td>
</tr>
<tr>
<td>Source and Load Impedance</td>
<td>50</td>
<td>-</td>
<td>Ω</td>
<td></td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>25</td>
<td>-</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

Notes:  
1. Reference frequency. Computed as mean of the 3 dB frequencies.  
2. All dB values are referenced to the Insertion Loss.

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>-50</td>
<td>95</td>
<td>°C</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-40</td>
<td>85</td>
<td>°C</td>
</tr>
<tr>
<td>DC Voltage</td>
<td>-</td>
<td>5</td>
<td>V</td>
</tr>
<tr>
<td>Input Power Level</td>
<td>-</td>
<td>+10</td>
<td>dBm</td>
</tr>
</tbody>
</table>

MATCHING CIRCUIT

\[
\begin{align*}
C_{p1} &= 1.8 \text{ pF}, L_{s1} = 220 \text{ nH}, C_{p2} = 1.8 \text{ pF}, L_{s2} = 220 \text{ nH} \\
\end{align*}
\]

Notes:
- Recommend ±2% tolerance components. Typical inductor \( Q=40 \).
- Values shown are for reference only and may change depending on board layout.
140 MHz SAW Filter
0.04 MHz Bandwidth
Part Number SF0140BA02676S

PACKAGE OUTLINE

Units: mm
Tolerances are ±0.15 mm except where indicated.

Pad Configuration:
Input: 9
Output: 4
Ground: All other pads

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

MARKING

Pad 1 identifier (ESD Symbol)
Date Code (YY=year, DDD=day)

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