SAW Filter 169.040MHz
Part No: MP05863
Rev No: 1

A. MAXIMUM RATING:

Electrostatic Sensitive Device

1. Operating temperature range: -40°C to 85°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 10dBm
4. Maximum DC Voltage: 10V

B. CHARACTERISTICS:

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center frequency Fc</td>
<td>MHz</td>
<td>-</td>
<td>169.04</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>7.2</td>
<td>10.0</td>
</tr>
<tr>
<td>-1dB bandwidth</td>
<td>MHz</td>
<td>10.8</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>-3dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>13.4</td>
<td>-</td>
</tr>
<tr>
<td>-40dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>17.7</td>
<td>18.3</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 4.85MHz</td>
<td>dB</td>
<td>-</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Group Delay variation Fc ± 4.85MHz</td>
<td>nsec</td>
<td>-</td>
<td>45</td>
<td>80</td>
</tr>
<tr>
<td>Absolute Delay</td>
<td>unec</td>
<td>-</td>
<td>0.68</td>
<td>-</td>
</tr>
<tr>
<td>Ultimate</td>
<td>dB</td>
<td>40</td>
<td>60</td>
<td>-</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>ppm/°C</td>
<td>-</td>
<td>-94</td>
<td>-</td>
</tr>
<tr>
<td>Source Impedance</td>
<td>Ohm</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>Ohm</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>
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C. FREQUENCY CHARACTERISTICS:

1. Wide band Response: (span 200MHz) (Typical performance at 25°C)

![Wide band Response Graph]

Fig. 1. Horizontal: 20MHz / Div, Vertical: 10Db / Div

2. Pass band Response and Group Time Delay response:

![Pass band Response and Group Time Delay Graph]

Fig. 2. Horizontal: 2MHz / Div, Vertical: 1dB / Div, Vertical: 100ns / Div
3. Smith Chart:

freq (69.04MHz to 269.0MHz)

4. Wide Band Response:

Fig. 4. Horizontal: 80MHz / Div, Vertical: 10dB / Div
5. Reflection Functions:

D. MATCHING CIRCUIT:

\[ \begin{align*}
L1 &= 24\,\text{nH} \\
C1 &= 68\,\text{pF} \\
L2 &= 27\,\text{nH} \\
C2 &= 36\,\text{pF}
\end{align*} \]
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E. OUTLINE DRAWING:

K: Input
L: Input Ground
E: Output
F: Output Ground
A, B, C, D, G, H, I, J: Ground
Unit: mm

F. PCB FOOTPRINT:

Unit: mm
G. PACKING:

1. Reel Dimension

2. Tape Dimension
H. RECOMMENDED REFLOW PROFILE:

![Reflow Profile Graph]

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