SAW Filter 168.0MHz
Part No: MP02660

Model: TB0727A
REV. NO.: 1

A. MAXIMUM RATING:
1. Operating temperature range: -40°C to 85°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 10 dBm
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>168</td>
<td></td>
</tr>
<tr>
<td>Insertion Loss, IL</td>
<td>dB</td>
<td></td>
<td>12.2</td>
<td>13.5</td>
</tr>
<tr>
<td>-1dB BW</td>
<td>MHz</td>
<td>20</td>
<td>20.9</td>
<td>-</td>
</tr>
<tr>
<td>-3dB BW</td>
<td>MHz</td>
<td>22.4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Upper -35dB Band edge</td>
<td>MHz</td>
<td></td>
<td>181.7</td>
<td>183</td>
</tr>
<tr>
<td>Lower -35dB Band edge</td>
<td>MHz</td>
<td>153</td>
<td>155.1</td>
<td>-</td>
</tr>
<tr>
<td>Passband ripple at Fc +/- 8MHz</td>
<td>dB</td>
<td></td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Group delay ripple at Fc +/- 8MHz</td>
<td>ns</td>
<td></td>
<td>35</td>
<td>160</td>
</tr>
<tr>
<td>Absolute delay</td>
<td>us</td>
<td></td>
<td>0.85</td>
<td>1.0</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>ppm/°C</td>
<td></td>
<td>-72</td>
<td>-</td>
</tr>
<tr>
<td>Source / Load Impedance</td>
<td>Ohm</td>
<td></td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>
C. FREQUENCY CHARACTERISTICS:

(1) S21 Response: (span 180MHz)

![Graph](image1.png)

Fig1. Horizontal: 18MHz/Div Vertical: 10dB/Div

(2) Pass band Response:

![Graph](image2.png)

Fig2. Horizontal: 5MHz/Div Vertical: 1dB/Div Vertical: 50ns/Div
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(3) Smith chart

D. MATCHING CIRCUIT:

\[
\begin{align*}
\text{input} & \quad 50 \, \Omega \\
\text{L1} & = 27\, \text{nH} \\
\text{L2} & = 39\, \text{nH} \\
\text{C1} & = 82\, \text{pF} \\
\text{C2} & = 82\, \text{pF}
\end{align*}
\]
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E. OUTLINE DRAWING:

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

F. PCB FOOTPRINT:
G. PACKING:

1. REEL DIMENSION

2. TAPE DIMENSION
H. RECOMMENDED REFLOW PROFILE:

![Graph showing recommended reflow profile](image)

- Time (Sec) vs Temp (Deg C)
- Temperature range: 20 to 280 degrees C
- Time range: 0 to 360 seconds

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