SAW Filter 307.20MHz  
Part No: MP03853  
Model: TB1052A  
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: 18 dBm
4. Maximum DC Voltage: 10V

Electrostatic Sensitive Device

B. CHARACTERISTICS:

Ambient Temperature: 25°C

<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>307.2</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>16.8</td>
<td>18.5</td>
</tr>
<tr>
<td>1.0dB Band Width</td>
<td>MHz</td>
<td>62.0</td>
<td>65.0</td>
<td>-</td>
</tr>
<tr>
<td>3dB Band Width</td>
<td>MHz</td>
<td>65.0</td>
<td>67.8</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude Ripple Fc ± 27MHz</td>
<td>dB</td>
<td>-</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Group Delay Ripple Fc ± 27MHz</td>
<td>ns</td>
<td>-</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td>Absolute Group Delay at Fc</td>
<td>us</td>
<td>-</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Attenuation (Reference level from minimum Insertion loss)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100MHz ~ 214MHz</td>
<td>dB</td>
<td>45</td>
<td>55</td>
<td>-</td>
</tr>
<tr>
<td>214MHz ~ 257.2MHz</td>
<td>dB</td>
<td>20</td>
<td>55</td>
<td>-</td>
</tr>
<tr>
<td>357.2MHz ~ 400MHz</td>
<td>dB</td>
<td>20</td>
<td>55</td>
<td>-</td>
</tr>
<tr>
<td>400MHz ~ 600MHz</td>
<td>dB</td>
<td>45</td>
<td>55</td>
<td>-</td>
</tr>
<tr>
<td>600MHz ~ 1000MHz</td>
<td>dB</td>
<td>40</td>
<td>65</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>200</td>
<td>-</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>Ohm</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>
C. FREQUENCY CHARACTERISTICS:

1. Narrow band Response: (span 400MHz)

![Graph showing narrow band response](image)

*Fig. 1: Horizontal: 40MHz/Div, Vertical: 10dB/Div*

2. Pass band Response and Group Time Delay response:

![Graph showing pass band response](image)

*Fig. 2: Horizontal: 10MHz/Div, Vertical: 1dB/Div, Vertical: 100ns/Div*
3. Smith Chart:

![Smith Chart Image]

4. Wide band Response:

![Wide band Response Image]

Fig. 4: Horizontal: 90MHz/Div, Vertical: 10dB/Div

SAW Filter 307.20MHz
Part No: MP03853
Model: TB1052A
Rev No:1
D. MATCHING CIRCUIT:

![Matching Circuit Diagram]

\[ L_1 = L_2 = 15\text{nH} \quad L_3 = 10\text{nH} \quad C_1 = 4.7\text{pF} \quad C_2 = 22\text{pF} \]

![Matching Circuit Diagram]

\[ L_1 = 10\text{nH} \quad L_2 = 10\text{nH} \quad C_1 = 15\text{pF} \quad C_2 = 18\text{pF} \]
E. OUTLINE DRAWING:

J: RF input
K: RF balance input or to be ground
D: RF output
E: RF output ground
A, B, C, F, G, H: Ground
Unit: mm

F. PCB FOOTPRINT:
G. PACKING:

1. Reel Dimension

2. Tape Dimension
H. RECOMMENDED REFLOW PROFILE:

![Graph showing a recommended reflow profile with time on the x-axis and temperature on the y-axis. The curve peaks around 220°C and takes approximately 120 seconds to reach this temperature.]