SAW Filter 183.0MHz  
Model: TB1013A  
Part No: MP05864  
Rev No: 1

A. MAXIMUM RATING:

1. Operating temperature range: -30°C to 85°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 15dBm
4. Maximum DC Voltage: 10V

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>183.0</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL Exclude loss in matching elements *1)</td>
<td>dB</td>
<td>-</td>
<td>9.2</td>
<td>11.0</td>
</tr>
<tr>
<td>-1dB bandwidth</td>
<td>MHz</td>
<td>0.050</td>
<td>0.086</td>
<td>-</td>
</tr>
<tr>
<td>VSWR Fc ± 0.03MHz</td>
<td>MHz</td>
<td>-</td>
<td>1.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 0.01MHz</td>
<td>dB</td>
<td>-</td>
<td>0.1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Attenuation: (Reference level from Min IL)

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fc ± 500kHz</td>
<td>dB</td>
<td>40</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Fc ± 900kHz</td>
<td>dB</td>
<td>40</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>ppm/°C2</td>
<td>-</td>
<td>-0.036</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>

*1): The matching circuit is ideal by simulation.
C. FREQUENCY CHARACTERISTICS:

1. Wide band Response: (span 2MHz)

![Graph showing frequency response with labels and measurements.]

Fig. 1. Horizontal: 0.2MHz / Div, Vertical: 10dB / Div

2. VSWR:

![Graph showing voltage standing wave ratio with labels and measurements.]

C. FREQUENCY CHARACTERISTICS:
3. Smith Chart:

D. MATCHING CIRCUIT:

![Diagram]

C1 = 3.6pF  L1 = 94nH  L2 = 90nH  C2 = 3.8pF
E. OUTLINE DRAWING:

A: Input
E: Output
B, C, D, F, G, H: Ground
Unit: mm

F. PCB FOOTPRINT:
G. PACKING:

1. Reel dimension

2. Tape Dimension
H. RECOMMENDED REFLOW PROFILE:

![Graph showing the recommended reflow profile for the SAW Filter 183.0MHz Model: TB1013A Part No: MP05864 Rev No: 1. The graph plots temperature in degrees Celsius against time in seconds. The profile starts at room temperature, rises sharply to around 220°C, holds for some time, and then rapidly cools down to below 100°C.]