SAW Filter 181.0MHz
Part No: MP05312

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: 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>181</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>23.0</td>
<td>24.0</td>
</tr>
<tr>
<td>1dB Band Width</td>
<td>MHz</td>
<td>50</td>
<td>57</td>
<td>-</td>
</tr>
<tr>
<td>40dB Band Width</td>
<td>MHz</td>
<td>-</td>
<td>64</td>
<td>75</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 25MHz</td>
<td>dB</td>
<td>-</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Absolute group Delay</td>
<td>us</td>
<td>-</td>
<td>0.8</td>
<td>-</td>
</tr>
<tr>
<td>Group Delay variation Fc ± 25MHz</td>
<td>ns</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Attenuation (Reference level from minimum Insertion loss)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC ~ 141MHz</td>
<td>dB</td>
<td>35</td>
<td>47</td>
<td>-</td>
</tr>
<tr>
<td>221MHz ~ 435MHz</td>
<td>dB</td>
<td>35</td>
<td>47</td>
<td>-</td>
</tr>
<tr>
<td>435MHz ~ 645MHz</td>
<td>dB</td>
<td>25</td>
<td>60</td>
<td>-</td>
</tr>
<tr>
<td>645MHz ~ 1000MHz</td>
<td>dB</td>
<td>45</td>
<td>58</td>
<td>-</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>ppm/°C</td>
<td>-</td>
<td>-72</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>
C. FREQUENCY CHARACTERISTICS:

1. Narrow band Response:

![Graph of narrow band response](image1)

Fig. 1: Horizontal: 30MHz / Div, Vertical: 10dB / Div

2. Pass band Response and Group Delay Response:

![Graph of pass band response and group delay](image2)

Fig. 2: Horizontal: 10MHz / Div, Vertical: 1dB / Div, Vertical: 100ns / Div
3. Wide band Response:

![Wide band Response Graph]

Fig. 1: Horizontal: 100MHz / Div, Vertical: 10dB / Div

4. Smith Chart

![Smith Chart Graph]
D. MATCHING CIRCUIT:

![Matching Circuit Diagram]

L1 = 24nH  C1 = 18pF  L2 = 24nH  C2 = 20pF

E. OUTLINE DRAWING:

![Outline Drawing]

K: Input  
L: Input Ground  
E: Output  
F: Output Ground  
A, B, C, D, G, H, I, J: Ground  
Unit: mm
SAW Filter 181.0MHz
Model: TB1093A
Part No: MP05312
Rev No: 1

F. PCB FOOTPRINT:

Unit: mm
G. PACKING:

1. Reel Dimension

(Please refer to FR-75D10 for packing quantity)

2. Tape Dimension
H. RECOMMENDED REFLOW PROFILE:

![Graph showing temperature vs. time for reflow profile]

- Time (Sec) range from 0 to 360
- Temperature (Deg C) range from 20 to 280

The graph illustrates the recommended reflow profile for the SAW Filter 181.0MHz Model: TB1093A Part No: MP05312 Rev No: 1.