SAW Filter 46.30MHz
Part No: MP05680
Model: TB1124A
Rev No: 1

A. MAXIMUM RATING:

1. Operating temperature range: -55°C to 85°C
2. Storage temperature range: -55°C to 85°C
3. Input Power Level: 10 dBm
4. Maximum DC Voltage: 10V

Electrostatic Sensitive Device

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>46.3</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>19.5</td>
<td>24.0</td>
</tr>
<tr>
<td>3dB Bandwidth</td>
<td>MHz</td>
<td>21.0</td>
<td>22.1</td>
<td>-</td>
</tr>
<tr>
<td>35dB Bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>27</td>
<td>-</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 9.0MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Absolute group Delay</td>
<td>us</td>
<td>-</td>
<td>0.75</td>
<td>-</td>
</tr>
<tr>
<td>Group Delay variation Fc ± 9.0MHz</td>
<td>ns</td>
<td>-</td>
<td>75</td>
<td>-</td>
</tr>
</tbody>
</table>

Attenuation (Reference level from minimum Insertion loss)

<table>
<thead>
<tr>
<th>Range</th>
<th></th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>62.3MHz ~ 82.3MHz</td>
<td>dB</td>
<td>22</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>82.3MHz ~ 150MHz</td>
<td>dB</td>
<td>30</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>150MHz ~ 500MHz</td>
<td>dB</td>
<td>40</td>
<td>50</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>200</td>
<td>-</td>
</tr>
</tbody>
</table>
C. FREQUENCY CHARACTERISTICS:

1. Wide band Response:

![Wide band Response](image1.png)

Fig. 1: Horizontal: 8MHz / Div, Vertical: 10dB / Div

2. Pass band Response and Group Delay Response:

![Pass band Response](image2.png)

Fig. 2: Horizontal: 4MHz / Div, Vertical: 1dB / Div, Vertical: 100ns / Div
3. Wide band Response:

![Wide band Response graph]

Fig. 3: Horizontal: 50MHz / Div, Vertical: 10dB / Div

4. Smith Chart:

![Smith Chart graph]
D. MATCHING CIRCUIT:

\[ L1 = L2 = L3 = L4 = 390nH \quad C1 = C2 = 10pF \]

E. OUTLINE DRAWING:

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

Unit: mm

F. PCB FOOTPRINT:
G. PACKING:

1. Reel Dimension (Please refer to FR-75D10 for packing quantity)

![Diagram showing reel dimension]

2. Tape Dimension

![Diagram showing tape dimension]

Direction of feed
H. RECOMMENDED REFLOW PROFILE:

![Reflow Profile Graph]

- Time (Sec)
- Temp (Deg C)