SAW Filter 120.0MHz
Part No: MP07283

A. MAXIMUM RATING:

1. Operating temperature range: -10°C to 80°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 10dBm
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>120</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>25.5</td>
<td>27.0</td>
</tr>
<tr>
<td>-1dB bandwidth</td>
<td>MHz</td>
<td>14.20</td>
<td>14.40</td>
<td>-</td>
</tr>
<tr>
<td>-5dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>15.2</td>
<td>15.4</td>
</tr>
<tr>
<td>-40dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>16.8</td>
<td>17.0</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 6.92MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Group Delay variation Fc ± 6.92MHz</td>
<td>ns</td>
<td>60</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Absolute Group Delay</td>
<td>us</td>
<td>-</td>
<td>1.52</td>
<td>-</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>Ultimate Attenuation</td>
<td>dB</td>
<td>40</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>ppm/°C</td>
<td>-</td>
<td>-23</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. Wide Band Response:

![Wide Band Response Graph]

2. Pass Band Response and Group Delay Response:

![Pass Band Response Graph]
3. Smith Chart:

![Smith Chart Image]

D. MATCHING CIRCUIT:

![Matching Circuit Diagram]

\[ L_1 = 68nH \quad L_2 = 68nH \quad C_1 = 20pF \quad C_2 = 24pF \]
SAW Filter 120.0MHz  
Model: TB1214A  
Part No: MP07283  
Rev No: 1

E. OUTLINE DRAWING:

L: Input  
M: Input Ground  
E: Output  
F: Output Ground  
A, B, C, D, G, H, J, K: Ground  
Unit: mm

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:

1. Preheating shall be fixed at 150 ~ 180°C for 60 ~ 90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50 ~ 80 seconds and at 260°C +0/-5°C peak (20 ~ 40 sec).
4. Time: 2 times.