SAW Filter 745.0MHz  
Model: TB1115A  
Part No: MP05936  
Rev No: 1

A. MAXIMUM RATING:

1. Operating temperature range: -30°C to 60°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level: 10dBm
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>745</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>14.8</td>
<td>15.5</td>
</tr>
<tr>
<td>-1dB bandwidth</td>
<td>MHz</td>
<td>66.0</td>
<td>74.5</td>
<td>-</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 33MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Group Delay Ripple Fc ± 33MHz</td>
<td>ns</td>
<td>-</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Absolute Group Delay at Fc</td>
<td>ns</td>
<td>-</td>
<td>670</td>
<td>-</td>
</tr>
</tbody>
</table>

Attenuation:(Reference level from Min IL)

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10MHz ~ 604MHz</td>
<td>dB</td>
<td>40</td>
<td>55</td>
<td>-</td>
</tr>
<tr>
<td>604MHz ~ 676MHz</td>
<td>dB</td>
<td>40</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>676MHz ~ 686MHz</td>
<td>dB</td>
<td>20</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>686MHz ~ 698MHz</td>
<td>dB</td>
<td>15</td>
<td>38</td>
<td>-</td>
</tr>
<tr>
<td>814MHz ~ 879MHz</td>
<td>dB</td>
<td>33</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>879MHz ~ 1089MHz</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>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: (span 655MHz)

![Graph 1: Narrow band Response](image1.png)

Fig. 1. Horizontal: 65.5MHz / Div, Vertical: 10dB / Div

2. Pass band Response and Group Time Delay response:

![Graph 2: Pass band Response](image2.png)

Fig. 2. Horizontal: 10MHz / Div, Vertical: 1dB / Div, Vertical: 50ns / Div
3. Smith Chart:

![Smith Chart Image]

4. Wide band Response: (span 1200MHz)

![Wide band Response Image]

Fig. 4. Horizontal: 120MHz / Div, Vertical: 10dB / Div
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D. MATCHING CIRCUIT:

```
   Zin
      |
      v

C1

L1 = 3nH  C1 = 4.7pF  L2 = 5.6nH  C2 = 3.5pF

   Zout
      |
      v

50ohm
```

E. OUTLINE DRAWING:

3: Input  
2: Input ground  
7: Output  
6: Output ground  
1, 4, 5, 8: Ground  
Unit: mm

F. PCB FOOTPRINT:
G. PACKING:

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

2. Tape dimension:
H. RECOMMENDED REFLOW PROFILE:

![Reflow Profile Graph]

- Temperature (°C) vs. Time (Sec)
- Recommended reflow profile for the SAW Filter 745.0MHz Model: TB1115A Part No: MP05936 Rev No: 1