A. MAXIMUM RATING:

Electrostatic Sensitive Device (ESD)

1. Input Power Level: 10dBm
2. DC Voltage: 3V
3. Operating Temperature: -40°C to +85°C
4. Storage Temperature: -40°C to +85°C

B. ELECTRICAL CHARACTERISTICS:

1. Terminating source impedance (single ended): \( Z_S = 50\Omega \)
2. Terminating load impedance (single ended): \( Z_L = 50\Omega \)

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Frequency Fc</td>
<td>MHz</td>
<td>-</td>
<td>999</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss (988 ~ 1010MHz)</td>
<td>dB</td>
<td>-</td>
<td>2.4</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude Variation (988 ~ 1010MHz)</td>
<td>dB</td>
<td>-</td>
<td>1.35</td>
<td>2.4</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude Variation over 3MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.2</td>
<td>-</td>
</tr>
<tr>
<td>VSWR (988 ~ 1010MHz)</td>
<td></td>
<td>-</td>
<td>1.9</td>
<td>2.4</td>
<td>-</td>
</tr>
<tr>
<td>Group Delay Variation over 3MHz</td>
<td>ns</td>
<td>-</td>
<td>15</td>
<td>23</td>
<td>-</td>
</tr>
<tr>
<td>Attenuation (reference level from 0dB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC ~ 970MHz</td>
<td>dB</td>
<td>30</td>
<td>36</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>970 ~ 974MHz</td>
<td>dB</td>
<td>15</td>
<td>30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1024 ~ 1028MHz</td>
<td>dB</td>
<td>15</td>
<td>45</td>
<td>-</td>
<td>-</td>
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<tr>
<td>1028 ~ 2000MHz</td>
<td>dB</td>
<td>30</td>
<td>38</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Temperature Coefficient of Frequency</td>
<td>ppm/C</td>
<td>-</td>
<td>-36</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
SAW Filter 999.0MHz  
Model: TA1411A
Part No: MP03791
Rev No: 1

C. OUTLINE DRAWING:

D. MEASUREMENT CIRCUIT:

HP Network analyzer

E. PCB FOOTPRINT:

Unit: mm
F. FREQUENCY CHARACTERISTICS:

![Frequency Characteristics Graphs]

SAW Filter 999.0MHz
Part No: MP03791
Model: TA1411A
Rev No: 1

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Reflection Functions

S11

![Graph of Reflection Function S11](image)

S22

![Graph of Reflection Function S22](image)
G. PACKING:

1. Reel Dimension

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 245 ~ 260°C peak (min 10sec).
4. Time: 2 times.