SAW Filter 480.0MHz  
Model: TB0590A  
Rev No: 1B

A. MAXIMUM RATING:

1. Operating Temperature: -30°C ~ 70°C
2. Storage Temperature: -40°C ~ +85°C

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>479.5</td>
<td>480</td>
<td>480.5</td>
</tr>
<tr>
<td>Max Insertion Loss</td>
<td>dB</td>
<td>-</td>
<td>17.5</td>
<td>19.5</td>
</tr>
<tr>
<td>1dB Bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>35.7</td>
<td>-</td>
</tr>
<tr>
<td>3dB Bandwidth</td>
<td>MHz</td>
<td>36</td>
<td>38.3</td>
<td>-</td>
</tr>
<tr>
<td>Pass band Ripple Fc ± 13.5MHz</td>
<td>dB</td>
<td>-</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Group delay 462 ~ 498MHz</td>
<td>ns</td>
<td>27</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

Relative Attenuation: (Reference level from Max IL)

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>Unit</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>320MHz to 454MHz</td>
<td>dB</td>
<td>35</td>
<td>52</td>
<td>-</td>
</tr>
<tr>
<td>506MHz to 640MHz</td>
<td>dB</td>
<td>35</td>
<td>48</td>
<td>-</td>
</tr>
</tbody>
</table>

Matching:

1. The input of the filter will be matched to 50ohm
2. The output of the filter will be matched to 50ohm
C. FREQUENCY CHARACTERISTICS:

1. S21 Response: (span 330MHz)

![Frequency Response Diagram](image1)

2. Passband of Response: (span: 50MHz)

![Passband Diagram](image2)
3. S11 Smith Chart: (span 200MHz)

![S11 Smith Chart](image)

4. S22 Smith Chart: (span 200MHz)

![S22 Smith Chart](image)
D. TEST CIRCUIT:

\[ Z_{IN} \text{ and } Z_{OUT} \text{ are } 50\Omega \]
\[ L_1 = 12\text{nH}, C_1 = 15\text{pF}, L_2 = 15\text{nH}, C_2 = 12\text{pF} \]

E. OUTLINE DRAWING:

C: RF input
G: RF output
H, D: Case Ground
A, B, E, F: Ground
SAW Filter 480.0MHz  
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Part No: MP02645  
Rev No: 1B

F. PACKING:

1. Reel Dimension

2. Tape Dimension

Direction of feed
G. RECOMMENDED REFLOW PROFILE: