50.0MHz SAW Filter
Part No: MA09100

A. MAXIMUM RATING:
1. Input Power Level: 10 dBm
2. Operating Temperature: -40°C to 65°C
3. Storage Temperature: -40°C to 85°C

B. ELECTRICAL CHARACTERISTICS:

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Min.</th>
<th>Type.</th>
<th>Max.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center frequency, $F_c$</td>
<td>MHz</td>
<td>49.5</td>
<td>50</td>
<td>50.5</td>
<td>-</td>
</tr>
<tr>
<td>Minimum Insertion Loss, IL</td>
<td>dB</td>
<td>-</td>
<td>13.5</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude ripple at any 200KHz bandwidth within 10.6MHz</td>
<td>MHz</td>
<td>-</td>
<td>0.5</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>1dB Bandwidth</td>
<td>MHz</td>
<td>10.6</td>
<td>10.7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3dB Bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>11.4</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>40dB Bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>15</td>
<td>16.9</td>
<td>-</td>
</tr>
<tr>
<td>Group Delay Variation within 5.6MHz BW</td>
<td>nS</td>
<td>135</td>
<td>200</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Phase Linearity within 5.6MHz BW</td>
<td>rms</td>
<td>1.5</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Triple transit suppression</td>
<td>dB</td>
<td>35</td>
<td>40</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Attenuation:(Reference level from Min IL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) DC~35MHz</td>
<td>dB</td>
<td>45</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) 35MHz~41MHz</td>
<td>dB</td>
<td>40</td>
<td>46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) 59MHz~65MHz</td>
<td>dB</td>
<td>35</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) 65MHz~125MHz</td>
<td>dB</td>
<td>40</td>
<td>43</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
50.0MHz SAW Filter
Model: TB0282A
Part No: MA09100
REV NO.: 1

C. OUTLINE DRAWING:

Pin K: RF Input
Pin E: RF Output
Pin L: Input Ground
Pin F: Output Ground
Pin A, B, C, D, G, H, I, J: To be Ground
☐: Date code
D. FREQUENCY CHARACTERISTICS:

Fig. 1 S21 Response Horizontal: 6MHz; Vertical: 10dB/Div

Fig. 2 Inband ripple and phase Horizontal: 1.5MHz; Vertical: 1dB/Div, 10deg/Div
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Fig. 3 Wideband response Horizontal: 0.01MHz~150MHz; Vertical: 10dB/Div

Fig. 4 Time domain response Horizontal: -20nS~5uS; Vertical: 10dB/Div
**50.0MHz SAW Filter**

Model: **TB0282A**

Part No: **MA09100**

REV NO.: **1**

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**E MATCHING CIRCUIT:**

![Matching Circuit Diagram]

- $L_1 = 180\,\text{nH}$
- $L_2 = 180\,\text{nH}$
- $L_3 = 270\,\text{nH}$
- $L_4 = 220\,\text{nH}$