A. MAXIMUM RATING:

1. Operating temperature range: -55°C to 125°C
2. Storage temperature range: -55°C to 125°C
3. Input Power Level: 10 dBm
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>152</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>14.5</td>
<td>15.5</td>
</tr>
<tr>
<td>1dB Band Width</td>
<td>MHz</td>
<td>34</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>40dB Band Width</td>
<td>MHz</td>
<td>46</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Amplitude Ripple Fc ± 16MHz</td>
<td>dB</td>
<td>-</td>
<td>0.6</td>
<td>1.0</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>200</td>
<td>-</td>
</tr>
<tr>
<td>Load Impedance</td>
<td>Ohm</td>
<td>-</td>
<td>200</td>
<td>-</td>
</tr>
</tbody>
</table>
C. FREQUENCY CHARACTERISTICS:

1. Wide band Response: (span 250MHz)

![Wide band Response Graph]

Fig. 1: Horizontal: 25MHz / Div, Vertical: 10Db / Div

2. Pass band Response and Group Time Delay response:

![Pass band Response and Group Time Delay Graph]

Fig. 2: Horizontal: 5MHz / Div, Vertical: 1dB / Div, Vertical: 100ns / Div
SAW Filter 152.0MHz  
Part No: MP04685

D. MATCHING CIRCUIT:

\[
\begin{align*}
C_1 &= C_2 = 56\text{pF} \\
C_3 &= C_4 = 33\text{pF} \\
L_1 &= 68\text{nH} \\
L_2 &= 82\text{nH}
\end{align*}
\]

\[Z_{\text{in}} = 200\ \text{ohm}\]
\[Z_{\text{out}} = 200\ \text{ohm}\]

E. OUTLINE DRAWING:

- J: RF input
- K: RF balance input or to be ground
- D: RF output
- E: RF balance output or to be ground
- A, B, C, F, G, H: Ground

Unit: mm
SAW Filter 152.0MHz
Model: TB0993A
Part No: MP04685
Rev No: 1

F. PCB FOOTPRINT:
G. PACKING:

1. Reel Dimension

2. Tape Dimension
H. RECOMMENDED REFLOW PROFILE:

![Graph showing recommended reflow profile with temperature on the y-axis and time on the x-axis. The profile peaks at approximately 220°C around 120 seconds and cools down gradually.]