A. MAXIMUM RATING:

1. Operating temperature range: -10°C to 80°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>138.24</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Upper -1dB frequency</td>
<td>MHz</td>
<td>176.24</td>
<td>177.731</td>
<td>-</td>
</tr>
<tr>
<td>Lower -1dB frequency</td>
<td>MHz</td>
<td>-</td>
<td>97.77</td>
<td>100.24</td>
</tr>
<tr>
<td>Upper -35dB frequency</td>
<td>MHz</td>
<td>-</td>
<td>183.4</td>
<td>186.0</td>
</tr>
<tr>
<td>Lower -35dB frequency</td>
<td>MHz</td>
<td>90.0</td>
<td>93.9</td>
<td>-</td>
</tr>
<tr>
<td>Ultimate rejection</td>
<td>dB</td>
<td>34</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Passband Ripple to 1dB frequencies</td>
<td>dB</td>
<td>-</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>ppm/°C</td>
<td>-</td>
<td>-72</td>
<td>-</td>
</tr>
<tr>
<td>Source Impedance (Balanced)</td>
<td>Ω</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>Load Impedance (Balanced)</td>
<td>Ω</td>
<td>-</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>
C. FREQUENCY CHARACTERISTICS:

1. Wide band Response: (span 600MHz)

![Wide band Response graph](image1)

Fig. 1. Horizontal: 60MHz/Div, Vertical: 10dB/Div

2. Pass band Response and Group Time Delay response:

![Pass band Response and Group Time Delay graph](image2)

Fig. 2. Horizontal: 10MHz/Div, Vertical: 1dB/Div, Vertical: 50ns/Div
SAW Filter 138.240MHz
Part No: MP03454
Model: TB0695A
Rev No: 1

3. Smith Chart:

![Smith Chart Image]

D. MATCHING CIRCUIT:

![Matching Circuit Diagram]

L1 = L2 = L3 = L4 = 24nH C1 = 24pF C2 = 2pF
Z\text{IN} = 50\Omega Z\text{OUT} = 50\Omega
E. OUTLINE DRAWING:

J: RF input  
L: RF balance input or to be ground  
D: RF output  
F: RF balance output or to be ground  
A, B, C, G, H, I: Ground  
Unit: mm

F. PCB FOOTPRINT:
G. PACKING:

1. REEL DIMENSION

![Diagram of reel dimension]

2. TAPE DIMENSION

![Diagram of tape dimension]
H. RECOMMENDED REFLOW PROFILE:

![Reflow Profile Graph]

- Time (Sec): 0 to 360
- Temp (Deg C): 20 to 280

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