SAW Filter 70.0MHz  
Model: TB1190A  
Part No: MP07281  
Rev No: 1

A. MAXIMUM RATING:

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

B. ELECTRICAL 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>70</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss IL</td>
<td>dB</td>
<td>-</td>
<td>11.2</td>
<td>14</td>
</tr>
<tr>
<td>-1dB bandwidth</td>
<td>MHz</td>
<td>14.2</td>
<td>14.38</td>
<td>-</td>
</tr>
<tr>
<td>-3dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>14.87</td>
<td>-</td>
</tr>
<tr>
<td>-5dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>15.17</td>
<td>15.3</td>
</tr>
<tr>
<td>-40dB bandwidth</td>
<td>MHz</td>
<td>-</td>
<td>16.90</td>
<td>-</td>
</tr>
<tr>
<td>Passband Ripple Fc ± 6.92MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Group Delay variation Fc ± 6.92MHz</td>
<td>ns</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Absolute Group Delay</td>
<td>us</td>
<td>-</td>
<td>1.58</td>
<td>-</td>
</tr>
</tbody>
</table>

Attenuation: (Reference level from Min IL)

| Ultimate Attenuation                         | dB   | 40   | 45   | -    |
| Temperature Coefficient                      | ppm/°C| -    | -94  | -    |
| Source Impedance                             | Ohm  | -    | 50   | -    |
| Load Impedance                               | Ohm  | -    | 50   | -    |
C. FREQUENCY CHARACTERISTICS:

1. Wide band Response:

![Wide band Response Graph]

-3 dB: 70.000 MHz ±1.188 dB
- BW: 15.1723400 kHz
- Cent: 70.0031200 MHz
- Low: 62.4207600 MHz
- High: 77.5854800 MHz
- Loss: ±11.188 dB

2. Pass Band Response and Group Delay Response:

![Pass Band Response and Group Delay Graph]

-3 dB: 70.00000 MHz ±1.188 dB
- BW: 14.3667800 kHz
- Cent: 70.3531000 MHz
- Low: 66.1786100 MHz
- High: 74.5275900 MHz
- Loss: ±11.188 dB
D. MATCHING CIRCUIT:

\[ L = 180\text{nH}, L_2 = 220\text{nH}, C_1 = 39\text{pF}, C_2 = 39\text{pF} \]
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E. OUTLINE DRAWING:

L: Input  
M: Input Ground  
E: Output  
F: Output Ground  
A, B, C, D, G, H, J, K: Ground  
Unit: mm

F. PCB FOOTPRINT:

Unit: mm
G. PACKING:

1. Reel Dimension (Please refer to FR-75D10 for packing quantity)

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 260°C ±0/-5°C peak (20 ~ 40sec).
4. Time: 2 times.