A. MAXIMUM RATING:

Electrostatic Sensitive Device (ESD)

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

B. ELECTRICAL CHARACTERISTICS:

1. Terminating source impedance (single ended): $Z_s = 50 \Omega$
2. Terminating load impedance (single ended): $Z_L = 50 \Omega$

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Frequency $F_c$</td>
<td>MHz</td>
<td>-</td>
<td>978</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Insertion Loss (967 ~ 989MHz)</td>
<td>dB</td>
<td>-</td>
<td>2.2</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude Variation (967 ~ 989MHz)</td>
<td>dB</td>
<td>-</td>
<td>1.2</td>
<td>2.5</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude Variation over 3MHz</td>
<td>dB</td>
<td>-</td>
<td>0.7</td>
<td>1.3</td>
<td>-</td>
</tr>
<tr>
<td>VSWR (967 ~ 989MHz)</td>
<td></td>
<td>-</td>
<td>1.75</td>
<td>2.4</td>
<td>-</td>
</tr>
<tr>
<td>Group Delay Variation over 3MHz</td>
<td>ns</td>
<td>-</td>
<td>20</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Attenuation (reference level from 0dB)</td>
<td></td>
<td>30</td>
<td>36</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC ~ 949MHz</td>
<td>dB</td>
<td>15</td>
<td>30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>949 ~ 953MHz</td>
<td>dB</td>
<td>15</td>
<td>50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1003 ~ 1007MHz</td>
<td>dB</td>
<td>30</td>
<td>37</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Temperature Coefficient of Frequency</td>
<td>ppm/°C</td>
<td>-</td>
<td>-36</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
C. OUTLINE DRAWING:

![Outline Drawing](image)

D. MEASUREMENT CIRCUIT:

```
50Ω   2       5      50Ω
      SAW Filter
       1, 3, 4, 6
```

E. PCB FOOTPRINT:

![PCB Footprint](image)
F. FREQUENCY CHARACTERISTICS:

![Graph 1](image1)

![Graph 2](image2)

![Graph 3](image3)
Reflection Functions

S11

S22
G. PACKING:

1. Reel Dimension

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 245 ~ 260°C peak (min 10sec).
4. Time: 2 times.