SAW Filter 947.5 MHz For GSM  
Model: TA947GG  
Part No: MA04712

A. MAXIMUM RATING:
1. Input Power Level: +15 dBm
2. DC voltage: -5 ~ +5V
3. Operating Temperature: -30°C ~ +85°C
4. Storage Temperature: -40°C ~ +85°C

B. ELECTRICAL CHARACTERISTICS:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
<td>Typ.</td>
</tr>
<tr>
<td>Center frequency ( F_C ) MHz</td>
<td>-</td>
<td>947.5</td>
</tr>
<tr>
<td>Insertion loss (935~960 MHz) I.L. ( I.L ) dB</td>
<td>-</td>
<td>2.7</td>
</tr>
<tr>
<td>V.S.W.R (935~960 MHz) dB</td>
<td>-</td>
<td>1.6</td>
</tr>
<tr>
<td>Ripple (935~960 MHz) dB</td>
<td>-</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Attenuation: (Reference level from 0 dB)

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>Value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.C. ~ 871 MHz</td>
<td>50</td>
<td>-</td>
</tr>
<tr>
<td>890 ~ 915 MHz</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>980 ~ 1025 MHz</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>1025 ~ 2000 MHz</td>
<td>45</td>
<td>-</td>
</tr>
<tr>
<td>2000 ~ 3000 MHz</td>
<td>20</td>
<td>-</td>
</tr>
</tbody>
</table>

Impedance at \( F_C \):
- \( Z_{IN} = R_{IN} / C_{IN} \)
- \( Z_{OUT} = R_{OUT} / C_{OUT} \)

Source impedance \( 50\Omega // 0 \text{pF} \)
Load impedance \( 50\Omega // 0 \text{pF} \)

Note 1
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C. FREQUENCY CHARACTERISTICS:

1. wideband response:
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passband response:

![Passband Response Graph]

2. VSRW:
   S11

![VSRW Graph]

S22
SAW Filter 947.5 MHz For GSM

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3. Smith chart of S11

4. Smith chart of S22
D. MEASUREMENT CIRCUIT:

Network analyzer

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E. OUTLINE DRAWING:
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Part No: MA04712

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### F. MECHANICAL & ENVIRONMENTAL CHARACTERISTICS:

<table>
<thead>
<tr>
<th>Test Item</th>
<th>Condition of Test</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock ( Drop test )</td>
<td>random free drops 3 times from height of 1.0 meter onto hardwood board.</td>
<td>The specimens shall meet the electrical specifications</td>
</tr>
</tbody>
</table>
| Vibration                  | Total peak amplitude : 1.5mm  
Vibration frequency : 10 to 55 Hz  
Sweep period : 1.0 minute  
Vibration directions : 3 mutually perpendicular  
Duration : 2 hr / direc. |                                                                              |
| Solderability ( solder heat ) | immersed pad in soldering bath at 245±5°C for 5±0.5 seconds.                     | 75% or more of the immersed surface shall be covered with solder            |
| Temperature Characteristics | Specimens shall be measured within -30°C to +85°C temperature range             |                                                                              |
| Dry heat ( Aging test )    | Temperature : 125 ± 2 °C  
Duration : 250 hours                                                                   | The specimens shall meet the electrical specifications                      |
| Cold resistance            | Temperature : -40 ± 3 °C  
Duration : 96 hours                                                                     |                                                                              |
| Thermal Shock              | Heat cycle conditions -55 C 25 C 85 C (30 min) (5 min) (30 min)  
Cycle time : 5 times                                                            |                                                                              |
G. PACKING:

1. REEL DIMENSION

2. TAPE DIMENSION
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