TMX W311
SAW Filter datasheet

2.5 x 2.0 mm, SMD

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Features

- 1960 MHz center frequency
- Ceramic package for Surface Mounted Technology
- 60 MHz useable Passband
- 50 Ω Single Input / 200 Ω Balanced Output

Applications

- Wireless applications
  - RF filter for PCS1900 Rx

Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage temperature range (T_{Stg})</td>
<td>-25</td>
<td></td>
<td>75</td>
<td>°C</td>
</tr>
<tr>
<td>Operating temperature range (T_A)</td>
<td>-40</td>
<td></td>
<td>85</td>
<td>°C</td>
</tr>
</tbody>
</table>

Frequency and Electrical Characteristics (Reference temperature @ 25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Typ. 1</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source impedance^2 (Single ended)</td>
<td>50</td>
<td></td>
<td></td>
<td>Ω</td>
</tr>
<tr>
<td>Load impedance^2 (Balance drive)</td>
<td>200</td>
<td></td>
<td></td>
<td>Ω</td>
</tr>
<tr>
<td>Center frequency (fc)</td>
<td>1960</td>
<td></td>
<td></td>
<td>MHz</td>
</tr>
<tr>
<td>Bandwidth @ -3 dB (BW, passband width)</td>
<td>60.00</td>
<td></td>
<td></td>
<td>MHz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency and Electrical Characteristics (Reference temperature @ 25°C)</th>
<th>Min.</th>
<th>Typ. 1</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute Attenuation</td>
<td></td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From DC to 1000 MHz</td>
<td>45</td>
<td>55</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 1000 to 1830 MHz</td>
<td>25</td>
<td>31</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 1830 to 1900 MHz</td>
<td>15</td>
<td>25</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 1900 to 1910 MHz</td>
<td>7</td>
<td>13</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 2010 to 2030 MHz</td>
<td>5</td>
<td>8</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 2030 to 2070 MHz</td>
<td>12</td>
<td>18</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 2070 to 2310 MHz</td>
<td>20</td>
<td>24</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 2310 to 2380 MHz</td>
<td>35</td>
<td>38</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 2380 to 4600 MHz</td>
<td>30</td>
<td>39</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>From 4600 to 6000 MHz</td>
<td>23</td>
<td>54</td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Insertion Loss (IL, 1930 – 1990 MHz)</td>
<td></td>
<td>2.7</td>
<td>4.0</td>
<td>dB</td>
</tr>
<tr>
<td>Input VSWR (1930 – 1990 MHz)</td>
<td></td>
<td>1.8</td>
<td>2.4</td>
<td>dB</td>
</tr>
<tr>
<td>Output VSWR (1930 – 1990 MHz)</td>
<td></td>
<td>2.0</td>
<td>2.4</td>
<td>dB</td>
</tr>
<tr>
<td>Amplitude ripple (1930 – 1990 MHz)</td>
<td></td>
<td>0.6</td>
<td>2.4</td>
<td>dB</td>
</tr>
</tbody>
</table>

Symmetry in band (referenced to the matched operating condition)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Typ. 1</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S31</td>
<td>/</td>
<td>S21</td>
<td>: 1930 – 1990 MHz</td>
</tr>
</tbody>
</table>

1 Typical values are nominal performances at room temperature
2 External matching network is required

Issue: Rev 3, 9 January 2023
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Model Outline, Pin Connection and Marking

```
TOP VIEW

2.5 ± 0.12

3.0 ± 0.12

P C Y W

A

FRONT VIEW

SIDE VIEW

BOTTOM VIEW

Unit: mm

Marking | Note
---|---
Line 1 | PC  
P = Product Code Identification  
C = Partner Identifier

Line 2 | YW  
Y = Last digit of the year  
W = Week Code ("A" to "Z" for Week 1 to 26 and "a" to "z" for the week 27 to 52)

Line 3 | •  
• = Identify black dot

Pin | Connections
---|---
G | Input
C, D | Output
B, E | Case Ground

Test Circuit

50 Ω / 200 Ω Configuration

Input  
Single, 50 Ω

SAW Filter

Output  
Balanced, 200 Ω

GND

18 nH
Frequency Characteristics
Packaging

**REEL DETAILS:**

- Label
- ESD prevention label
- Scanning orientation
- Pb-Free label

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**Packaging**

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