SAW Resonator: 640.0MHz  
Model: TC0597A  
Part No: MP05183  
Rev No: 1

A. FEATURES:

Electrostatic Sensitive Device (ESD)

One-Port Resonator

B. MAXIMUM RATING:

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

C. ELECTRICAL CHARACTERISTICS:

Reference Temperature $T_A = 25°C$

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unit</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center frequency $F_r$</td>
<td>MHz</td>
<td>639.928</td>
<td>639.963</td>
<td>639.998</td>
</tr>
<tr>
<td>Insertion Loss $IL$</td>
<td>dB</td>
<td>-</td>
<td>1.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Equivalent Elements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motional capacitance $C_1$</td>
<td>fF</td>
<td>-</td>
<td>1.29</td>
<td>-</td>
</tr>
<tr>
<td>Motional inductance $L_1$</td>
<td>μH</td>
<td>-</td>
<td>47.3</td>
<td>-</td>
</tr>
<tr>
<td>Motional resistance $R_1$</td>
<td>Ohm</td>
<td>-</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td>Parallel capacitance $C_0$</td>
<td>pF</td>
<td>-</td>
<td>2.68</td>
<td>-</td>
</tr>
<tr>
<td>Frequency Aging Absolute Value during the First Year</td>
<td>ppm/yr</td>
<td>-</td>
<td>±10</td>
<td></td>
</tr>
<tr>
<td>Temp. coeff.</td>
<td>ppm/c*2</td>
<td>-</td>
<td>-0.032</td>
<td>-</td>
</tr>
<tr>
<td>Turnover To</td>
<td>deg.C</td>
<td>20</td>
<td>35</td>
<td>50</td>
</tr>
<tr>
<td>Package size</td>
<td></td>
<td>SMD 3.0X3.0X1.4mm</td>
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<td></td>
</tr>
</tbody>
</table>
D. EQUIVALENT CIRCUIT:

One-Port Resonator:

![Equivalent Circuit Diagram]

E. OUTLINE DRAWING:

![Outline Drawing]

#B: Input  
#E: Output  
# A.C.D.F Ground  

Unit: mm
F. FREQUENCY CHARACTERISTICS:

![Graph showing frequency characteristics of a SAW Resonator]

G. TEST CIRCUIT:

Network analyzer

From 50Ω Network Analyzer 50Ω B SAW Resonator A, C, D, F 50Ω E To 50Ω Network Analyzer
H. PACKING:

1. Reel Dimension

![Reel Dimension Diagram]

2. Tape Dimension

![Tape Dimension Diagram]
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I. RECOMMENDED REFLOW PROFILE: