435.720MHz SAW Resonator
Part No: MA08665

Model: TC0250A
REV NO.: 1

A. FEATURES:

1. 1-Port Resonator.

B. MAXIMUM RATING:

1. Input Power Level: 0 dBm
2. DC voltage: 12 V
3. Operating Temperature: -40°C to +85°C
4. Storage Temperature: -40°C to +85°C

C. ELECTRICAL CHARACTERISTICS:

Reference Temperature $T_A=25^\circ$C

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Units</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center frequency $F_c$</td>
<td>MHz</td>
<td>435.645</td>
<td>435.72</td>
<td>435.795</td>
</tr>
<tr>
<td>Insertion Loss $IL$</td>
<td>dB</td>
<td>-</td>
<td>1.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Unload quality factor $Q_U$</td>
<td></td>
<td>6000</td>
<td>11000</td>
<td>-</td>
</tr>
<tr>
<td>Ageing of $F_c$</td>
<td>ppm/yr</td>
<td>-</td>
<td>-</td>
<td>±10</td>
</tr>
<tr>
<td>Motional capacitance $C_1$</td>
<td>fF</td>
<td>-</td>
<td>1.68</td>
<td>-</td>
</tr>
<tr>
<td>Motional inductance $L_1$</td>
<td>µH</td>
<td>-</td>
<td>85.4</td>
<td>-</td>
</tr>
<tr>
<td>Motional resistance $R_1$</td>
<td>Ohm</td>
<td>-</td>
<td>17.8</td>
<td>-</td>
</tr>
<tr>
<td>Parallel capacitance $C_o$</td>
<td>pF</td>
<td>-</td>
<td>3.08</td>
<td>-</td>
</tr>
<tr>
<td>Frequency Temperature coefficient (TC_f)</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>10</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>Package size</td>
<td></td>
<td>SMD 5X5X1.4mm</td>
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<td></td>
</tr>
</tbody>
</table>

Temperature dependence of $F_c$: $F_c(T_A)=F_c(T_O)(1+TC_f(T_A-T_O)^2)$
D. OUTLINE DRAWING:

E. EQUIVALENT CIRCUIT:
One-Port Resonator:

Source Impedance  Load Impedance
50Ω  50Ω

#1 #2
**F. FREQUENCY CHARACTERISTICS:**

![Resonator 435.72MHz Frequency Characteristics (S21)](image)

**G. TEST CIRCUIT:**

Network analyzer

![Test Circuit Diagram](image)

**H. PCB FOOT PRINT:**

![PCB Foot Print](image)
H. PACKING:

1. REEL DIMENSION

2. TAPE DIMENSION

Section A-A

Feed Direction