SAW Filter 868.35MHz
Model: TD0110A
Part No: MA07052

A. FEATURES:
1. 2-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 $T_A=25°C$

<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>868.250</td>
<td>868.350</td>
<td>868.450</td>
</tr>
<tr>
<td>Insertion Loss $I_L$</td>
<td>dB</td>
<td>-</td>
<td>6.7</td>
<td>9</td>
</tr>
<tr>
<td>Unload quality factor $Q_U$</td>
<td></td>
<td>4000</td>
<td>4900</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>0.334</td>
<td>-</td>
</tr>
<tr>
<td>Motional inductance $L_1$</td>
<td>µH</td>
<td>-</td>
<td>101.1</td>
<td>-</td>
</tr>
<tr>
<td>Motional resistance $R_1$</td>
<td>Ohm</td>
<td>-</td>
<td>112.4</td>
<td>-</td>
</tr>
<tr>
<td>Parallel capacitance $C_o$</td>
<td>pF</td>
<td>-</td>
<td>1.6</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 $T_o$</td>
<td>deg.C</td>
<td>10</td>
<td>25</td>
<td>40</td>
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<tr>
<td>Package size</td>
<td></td>
<td>SMD5X5</td>
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</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:

![Outline Drawing]

E. EQUIVALENT CIRCUIT:

Two-Port Resonator:

![Equivalent Circuit]
SAW Filter 868.35MHz  
Model: TD0110A  
Part No: MA07052  
REV. NO.: 2

F. FREQUENCY CHARACTERISTICS:

![Graph showing frequency characteristics of TD0110A]

Center Freq=868.35MHz/Span=10MHz

G. TEST CIRCUIT:

Network analyzer

From 50Ω Network Analyzer

50Ω SAW Resonator

6 50Ω
To 50Ω Network Analyzer

1,3,4,5,7,8
H. PACKING:

1. REEL DIMENSION

2. TAPE DIMENSION