Features
- Frequency range: 32.768 kHz
- SMD: Ceramic package
- External dimensions (mm)
  L: 3.2 x W: 1.5 x H: 0.75
- RoHS compliant & Pb free

Applications
- Small mobile devices
- Communication devices
- Consumer products
- Commercial & industrial applications

Electrical Characteristics

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>9HT10</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Frequency</td>
<td>f₀</td>
<td>32.768 kHz</td>
<td></td>
</tr>
<tr>
<td>Frequency Tolerance</td>
<td>Δf/f₀</td>
<td>±10ppm, ±20ppm, ±30ppm</td>
<td>at 25°C</td>
</tr>
<tr>
<td>Load Capacitance</td>
<td>C_L</td>
<td>6pF, 7pF, 9pF, 12.5pF</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>T_OTR</td>
<td>-40°C ~ +85°C</td>
<td>-40°C ~ +125°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>T_STR</td>
<td>-55°C ~ +125°C</td>
<td></td>
</tr>
<tr>
<td>Turnover Temperature</td>
<td>T_M</td>
<td>25°C ± 5°C</td>
<td></td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>β</td>
<td>-0.04 ppm/°C² Max.</td>
<td></td>
</tr>
<tr>
<td>Motional Capacitance</td>
<td>C₁</td>
<td>3.1 fF Typ.</td>
<td></td>
</tr>
<tr>
<td>Motional Resistance (ESR)</td>
<td>R₁</td>
<td>70 kΩ Max.</td>
<td>at 25°C</td>
</tr>
<tr>
<td>Drive Level</td>
<td>D_L</td>
<td>0.1 μW Typ. / 1.0 μW Max.</td>
<td></td>
</tr>
<tr>
<td>Aging</td>
<td>Δf/f₀</td>
<td>±3 ppm Max.</td>
<td>at 25°C ± 3°C, first year</td>
</tr>
<tr>
<td>Shunt Capacitance</td>
<td>C₀</td>
<td>1.0 pF Typ.</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions

(Unit: mm)
Ordering Information

9HT10 - 32.768K D Z F - T

Frequency Tolerance (at 25°C)
A ± 30 ppm
D ±20 ppm
E ±10 ppm

Packaging Method
T Tape & Reel

Operating Temperature Range
Z -40°C ~ +85°C
W -40°C ~ +125°C

Load Capacitance
B 6 pF
Y 7 pF
C 9 pF
F 12.5 pF

Packing

Total time: Max. 200 sec.
Solder melting point: 220°C