

Surface Mount Tuning Fork Crystal Unit 7.0 x 1.4mm package



Features

- High-density mounting-type SMD of 1.4 mm thickness.
- Small packaging area and light weight.
- Excellent environmental capability.
- Most suitable for small communications devices.

Electrical Specifications

Normal Frequency		32.768	KHz
Frequency Tolerance at 25°C		±20	PPM
Aging per year		±3	
Turnover Temperature		25 ±5	°C
Temperature Coefficient		-0.035 ±0.008 PPM/Δ °C ²	
Operating Temperature Range		-40 to +85	
Storage Temperature Range		-55 to +125	
Equivalent Series Resistance (ESR)		65	K Ohm Max
Load Capacitance	Standard	12.5	pF
	Optional	7, 9,	
Shunt Capacitance		0.8	pF Typ
Motional Capacitance		3.0	fF Typ
Drive Level		1.0	uW Max
Insulation Resistance		500 at 100Vdc (±15Vdc)	M Ohm Min
Quality Factor		70000	Typ
Capacitance Ratio		450	
Resistance to Shock		±5 PPM maximum offset from 75cm drop test in all axes on to a hard surface	

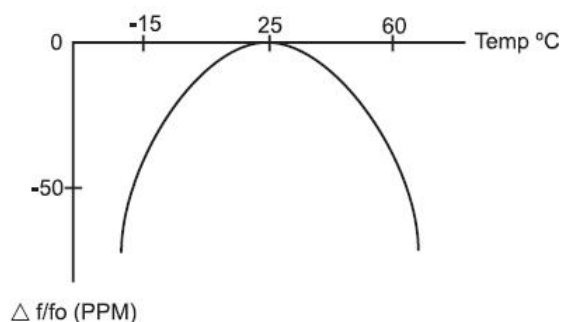
Frequency vs Temp. Characteristics

To Calculate the frequency stability the parabolic curvature constant (K) is needed

For Calculating the stability at 45°C?

1 – Chang in temperature (ΔT)is (45-25) = +20°C

2 – Change in frequency is $(-0.035x (\Delta °C)^2) = (-0.035 x (20)^2)$
= -14PPM

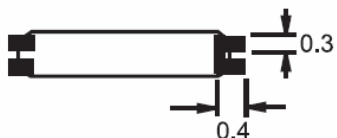
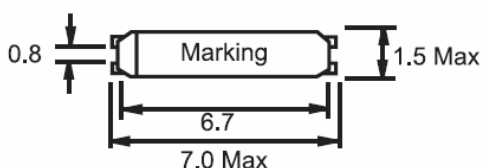


Part Numbering System

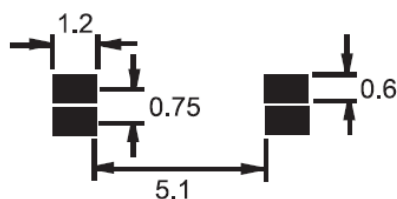
Type	Frequency KHz	Load Capacitance (pF)	Frequency Tolerance	Tape & Reel
WT7014	32.768	12.5 (Standard) 7, 9 (Option)	20 (± 20 PPM)	TR

Examples : WT7014-32.768-12.5-TR or WT7014-32.768-9-TR

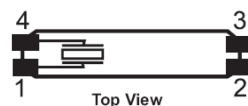
Mechanical Outline



PCB Solder Pad Layout

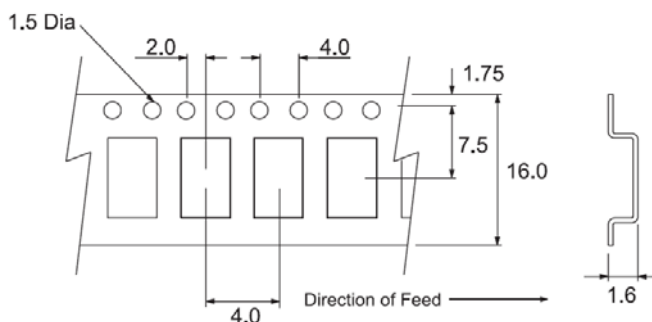


Pad Connection

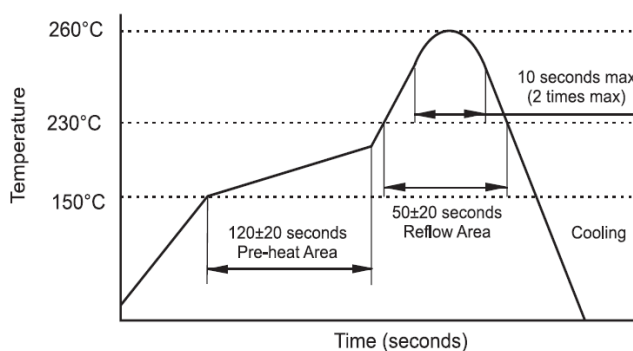


Package is Thermoplastic
Dimensions are millimeters.

Carrier Tape Dimensions



Solder Reflow Characteristics



Notes:

- 1 – Standard Temperature Range does not need to be included in Part Number description.
- 2 – Product is shipped in Tape and Reel configuration. Each reel contains 3000 pieces.
- 3 – Quantities less than 3000 pieces are shipped bulk in ESD pouches.
- 4 – Specification subject to change without notice.