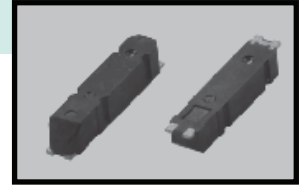


# Quartz Crystal Resonator (32.768KHz)



## TF7015

### General Description

The TF7015 is a low frequency SMT Quartz Crystal Unit that incorporates a tuning fork Quartz Crystal Resonator.

### Features

High stability and low aging guaranteed by hermetic sealing. Available for extended operating temperature range. Small size, low profile, lightweight. 100% Pb-free, RoHS-compliant

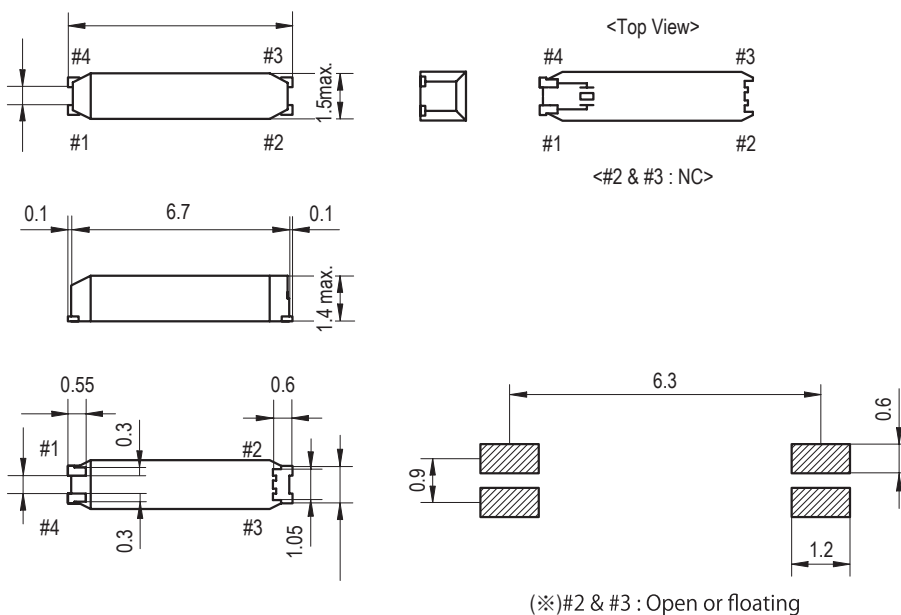
### Main Applications

Mobile phone, Notebook

### Electrical characteristics

Item	Symbol	Values
Part number		TF7015
Nominal frequency	F	32.768 KHz
Frequency tolerance (@ +25°C)	$\Delta f/F$	$\pm 10 / 15 / \mathbf{20}$ ppm
Frequency stability	$\Delta f/F$	-0.04 ppm/°C <sup>2</sup>
Operating temp. range	To	-40°C / +85°C
Storage temp. range	Ts	-55°C / +125°C
Load capacitance	Cl	6.0 / <b>7.0</b> / 9.0 / <b>12.5</b>
Equivalent serie resistance	ESR	65 K $\Omega$ max ; option 50 K $\Omega$ max
Shunt capacitance	CO	0.8pF [typical]
Motional capacitance	C1	0.0019pF [typical]
Drive level	P	0.5 $\mu$ W max
Turnover temperature	Tt	+25°C $\pm$ 5°C
Quality factor	Q	40000 min.
Aging	$\Delta f/F$	$\pm 3$ ppm max @ +25°C

### Dimensions



# TF7015

## Part Number Generator

**TF7015 - 0.032768 P12.5 C N TR xxx**

1            2            3            4            5            6

**1** : Frequency (MHz)

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max 10 digits including comma

**2** : Load capacitance

P6 = 6pF  
 P7 = 7pF  
 P9 = 9pF  
 P12.5 = 12.5pF

**3** : Tolerance

C=  $\leq \pm 20$ ppm  
 D=  $\leq \pm 15$ ppm  
 E=  $\leq \pm 10$ ppm

**4** : Op. Temp. range

N=-40/+85

**5** : Packing

TR = Tape & Reel (3K pcs)

**6** : Customized code

Note : factory use