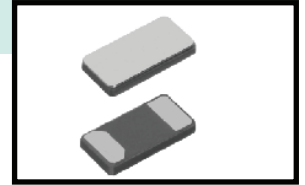


## Quartz Crystal Resonator (32.768KHz) ULTRA-THIN

# TF3215T



### General Description

The TF3215T is a low frequency SMT Quartz Crystal Unit that incorporates a tuning fork Quartz Crystal Resonator. It operates under vacuum in a hermetically sealed ceramic package with ceramic lid.

### Features

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

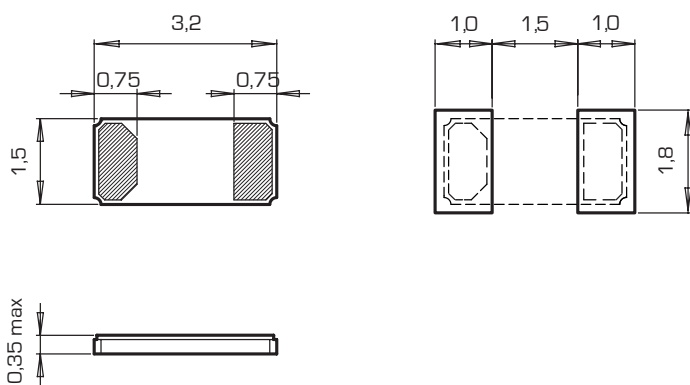
### Main Applications

Mobile phone, Notebook, Metering

### Electrical characteristics

Item	Symbol	Values
Part number		TF3215T
Nominal frequency	F	32.768 KHz
Frequency tolerance (@ +25°C)	$\Delta f/F$	$\pm 20$ ppm
Frequency stability	$\Delta f/F$	$-0.034$ ppm/°C <sup>2</sup>
Operating temp. range	T <sub>o</sub>	-40°C / +85°C
Storage temp. range	T <sub>s</sub>	-55°C / +125°C
Load capacitance	C <sub>l</sub>	6.0 / 7.0 / 9.0 / <b>12.5</b>
Equivalent serie resistance	ESR	45 / 60 K $\Omega$ max
Shunt capacitance	C <sub>0</sub>	1.4pF [typical]
Motional capacitance	C <sub>1</sub>	0.0036pF [typical]
Drive level	P	0.5 $\mu$ W max
Turnover temperature	T <sub>t</sub>	+25°C $\pm$ 5°C
Quality factor	Q	20000 min.
Aging	$\Delta f/F$	$\pm 3$ ppm max @ +25°C

### Dimensions



# TF3215T

## Part Number Generator

**TF3215T - 0.032768 P12.5 C N TR xxx**

1            2            3            4            5            6

**1** : Frequency (MHz)

□□□.□□□□□□□□

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

**4** : Op. Temp. range

N=-40/+85

**5** : Packing

TR = Tape & Reel (3K pcs)

**6** : Customized code

Note : factory use