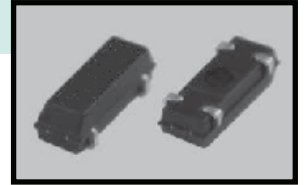


# Quartz Crystal Resonator (32.768KHz)

## TF7937



### General Description

The TF7937 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

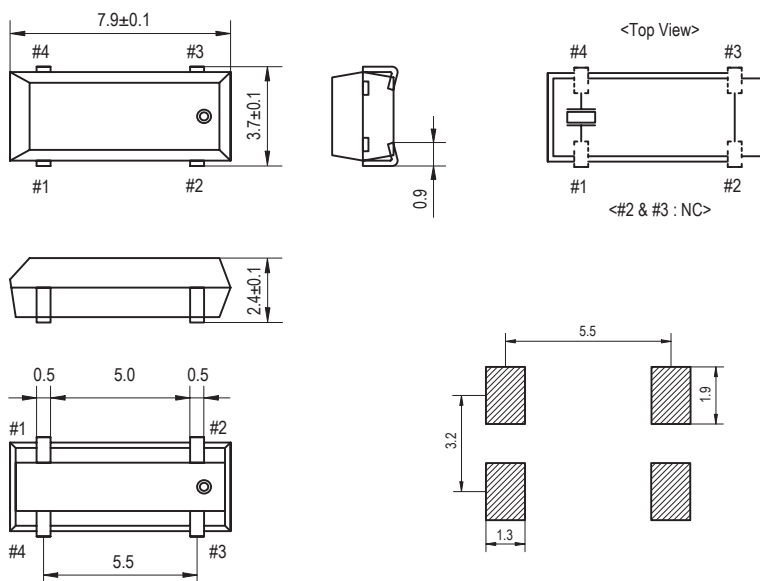
### Main Applications

Mobile phone, Notebook

### Electrical characteristics

Item	Symbol	Values
Part number		TF7937
Nominal frequency	F	32.768 KHz
Frequency tolerance (@ +25°C)	$\Delta f/F$	$\pm 5 / 10 / 15 / 20$ 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>12.5</b>
Equivalent serie resistance	ESR	50 KΩ MAX
Shunt capacitance	CO	1.35pF (typical)
Motional capacitance	C1	0.003pF (typical)
Drive level	P	0.5μW max
Turnover temperature	Tt	+25°C ±5°C
Quality factor	Q	50000 min.
Aging	$\Delta f/F$	±3ppm max @ +25°C

### Dimensions



# Quartz Crystal Resonator (32.768KHz)

## TF7937

### Part Number Generator

**TF7937 - 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  
P12.5 = 12.5pF

**3** : Tolerance

C=  $\leq \pm 20$ ppm  
D=  $\leq \pm 15$ ppm  
E=  $\leq \pm 10$ ppm  
G=  $\leq \pm 5$ ppm

**4** : Op. Temp. range

N=-40/+85

**5** : Packing

TR = Tape & Reel (3K pcs)

**6** : Customized code

Note : factory use