

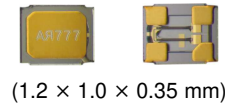
SMD Tuning Fork Crystal Unit

1.2 x 1.0 mm / 32.768 kHz

NEW PRODUCT
TFX-05X

FEATURES

- The world's smallest 1210size tuning fork crystal unit (32.768 kHz)
- Ultra-thin (0.35 mm) / ultra-light (0.8 mg) "Crystal Package" made of quartz crystal:
 - 43% lighter weight than a ceramic package of the same size
 - Better weather-ability / excellent shock resistance
 - "Metal Diffusion Sealing (MDS)": Robust sealing method using metal diffusion (patent pending)
- Wide operating temperature range of -40 to +105°C available
- Specifications in conformity with AEC-Q200 available on request



(1.2 × 1.0 × 0.35 mm)



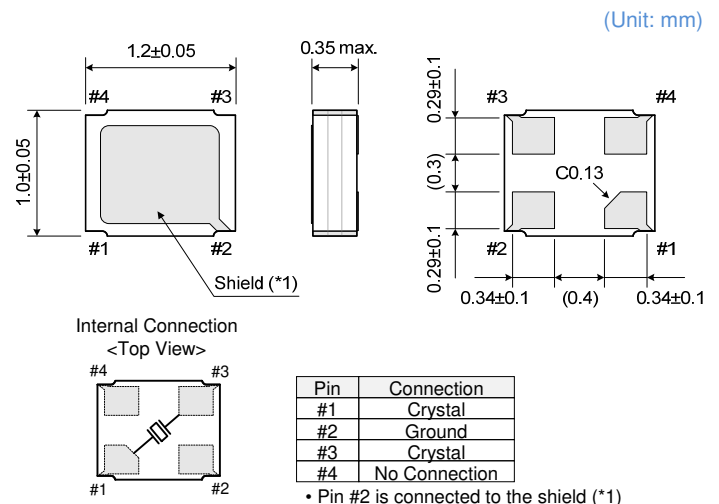
APPLICATIONS

- Small wireless-modules, Wearable devices, Hearable devices, and others
- Smartphones, Medical and Healthcare devices, Automotive electronics, and others

STANDARD SPECIFICATIONS

Item	Specifications	Conditions (Remarks)
Nominal frequency	32.768 kHz	-
Frequency tolerance	±20 ppm	@25°C (See below for more options)
Equivalent series resistance (E.S.R.)	90 kΩ Max.	-
Motional capacitance	7.0 fF Typ.	-
Shunt capacitance	1.5 pF Typ.	-
Storage temperature	-55 to +125°C	-
Operating temperature	-40 to +85°C -40 to +105°C	(See below for more options)
Temperature coefficient	-0.03±0.01 ppm/°C ²	-
Turnover temperature	25±5°C	-
Load capacitance	5.0, 7.0, 9.0, 12.5 pF	(Other values available)
Drive level	0.5 μW Max.	-
Tape and reel	5000 pcs/reel	Reel diameter : φ180 mm

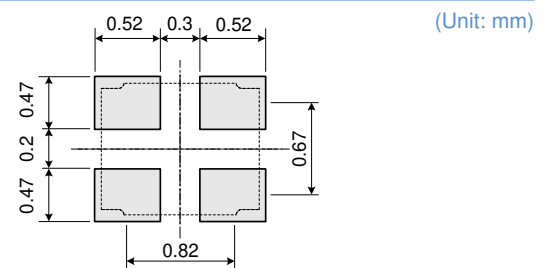
OUTLINE DIMENSIONS



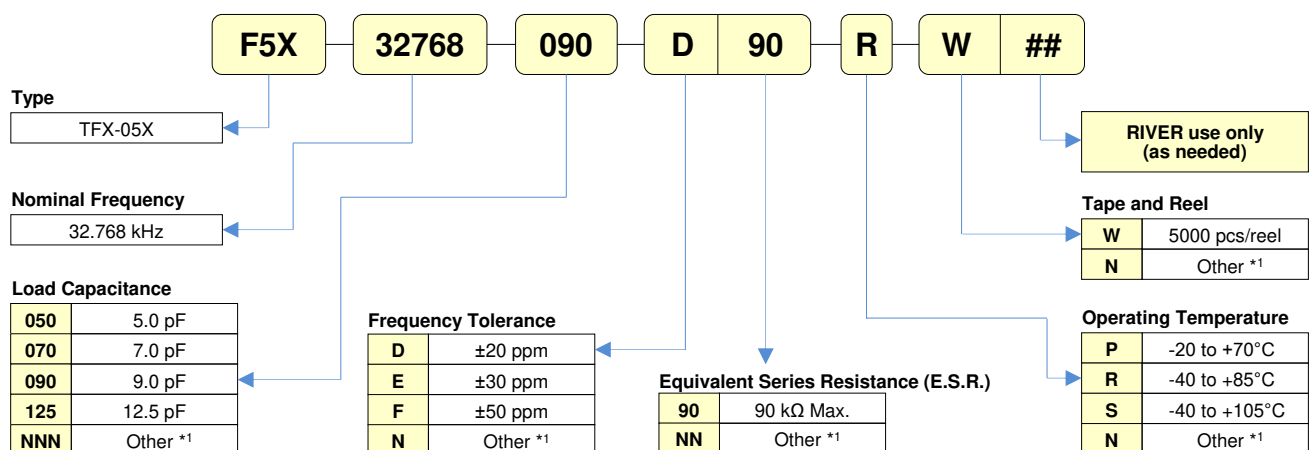
GENERAL NOTES

- Certain combinations of standard options may be classified as high-spec models.
- Please consult us for specifications that do not match the standard specifications.
- The information in this document is subject to change without notice.
- In case that the product is used in special installation environment, such as in resin mold, please consult us in advance.

RECOMMENDED LAND PATTERN



ORDERING NUMBER GUIDE



*1. Please consult us for your requirements.