

SMD Tuning Fork Crystal Unit

Low ESR / 1.6 x 1.0 mm / 32.768 kHz

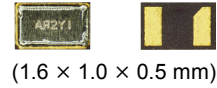
TFX-04 / TFX-04C

Standard type

Low-ESR type

FEATURES

- 1610 size 32.768 kHz tuning fork crystal unit with 2 types:
 - TFX-04 (standard type)
 - TFX-04C (low-ESR type): ESR 60 kΩ Max.
- Frequency tolerance of ± 10 ppm (@25°C) available
- Wide operating temperature range of -40 ~ +105°C available
- Excellent shock-resistance
- Robust ceramic package with metal lid sealed by electron beam
- Specifications in conformity with AEC-Q200 available on request



APPLICATIONS

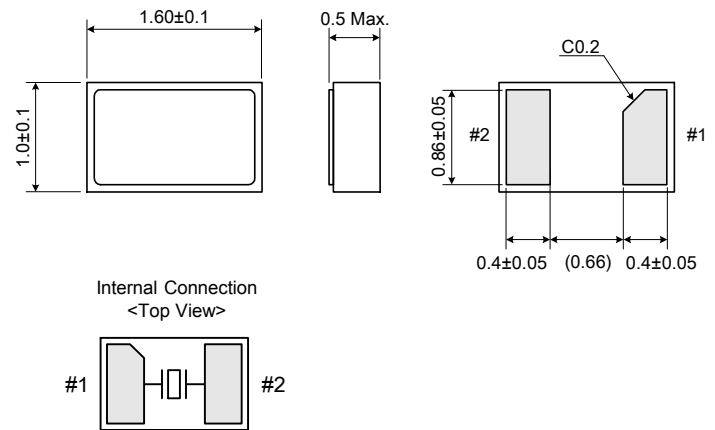
- Car audio systems / car GPS units / remote keyless entry / dash cameras
- Smartphones / wireless-modules / wearable devices

STANDARD SPECIFICATIONS

Item	Specifications		Conditions / Remarks
	TFX-04 (Standard)	TFX-04C (Low-ESR)	
Nominal frequency	32.768 kHz		-
Frequency tolerance	± 10 ppm ~		@25°C See below for more options
Equivalent series resistance (E.S.R.)	90 kΩ Max.	60 kΩ Max.	-
Motional capacitance	6.5 fF Typ.	7.5 fF Typ.	-
Shunt capacitance	1.3 pF Typ.	1.5 pF Typ.	-
Storage temperature	-55 ~ +125°C		-
Operating temperature	-40 ~ +85°C -40 ~ +105°C		See below for more options
Temperature coefficient	-0.03 \pm 0.01 ppm/°C ²		-
Turnover temperature	25 \pm 5°C		-
Load capacitance	5.0, 7.0, 9.0, 12.5 pF		Other values available
Drive level	0.5 μ W Max.		-
Tape and reel	5000 pcs/reel		Reel diameter: ϕ 180 mm

OUTLINE DIMENSIONS

(Unit: mm)

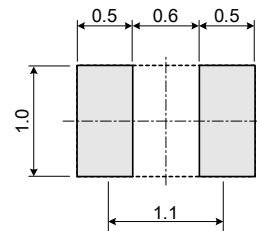


GENERAL NOTES

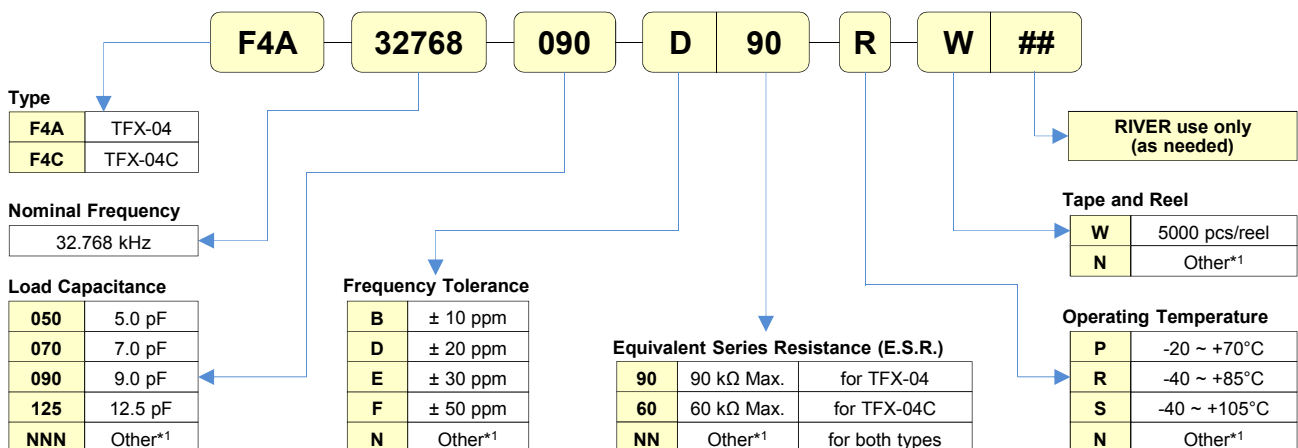
- Certain combinations of standard options may be classified as high-spec models.
- Please consult us for specifications that do not match the standard specifications.
- The information in this document is subject to change without notice.

RECOMMENDED LAND PATTERN

(Unit: mm)



ORDERING NUMBER GUIDE



*1. Please consult us for your requirements.



RIVER ELETec CORPORATION

E-mail: ret-eigyou@river-ele.co.jp
 River Electronics (Singapore) Pte.Ltd. TEL:+65-6258-7874 FAX:+65-6258-7366
 Taiwan River Co.,Ltd. TEL:+886-2-8988-2811 FAX:+886-2-2983-4785
 Xi'an River Electronics Corporation (China) TEL:+86-755-86528590 FAX:+86-755-86528590

<http://www.river-ele.co.jp>

2-1-11 Fujimigaoka, Nirasaki, Yamanashi, 407-8502, Japan
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