

VC-TCXO / TCXO
ULTRA HIGH STABILITY

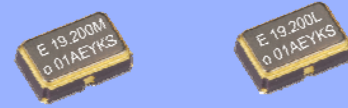
NEW



Product Number (please contact us)
TG5032CFN :X1G005391xxxxxx
TG5032SFN :X1G005401xxxxxx

TG5032CFN
TG5032SFN

- Frequency range : 10 MHz to 40 MHz
- Supply voltage : 3.3 V Typ.
- Frequency / temperature characteristics : $\pm 0.1 \times 10^{-6}$ Max. (-40 °C to +85 °C)
- Frequency aging : $\pm 3.0 \times 10^{-6}$ Max./20years
- External dimensions: 5.0 × 3.2 × 1.45 mm (4 pins)
- Applications : Small Cells, Stratum3
- Features : Ultra high stability, Wide temperature range



Actual size



Specifications (characteristics)

Item	Symbol	TG5032CFN (CMOS output)		TG5032SFN (Clipped sine wave)		Conditions / Remarks
		VC-TCXO	TCXO	VC-TCXO	TCXO	
Output frequency range	f _o	10 MHz to 40 MHz				Standard frequency
Supply voltage	V _{CC}	C: 3.3 V ±5% (Supply voltage range :2.375 V to 3.63 V)				
Storage temperature	T _{stg}	-40 °C to +90 °C				Storage as single product
Operating temperature	T _{use}	G: -40 °C to +85 °C				Standard temp. range
a) Frequency tolerance	f _{tol}	±1.0 × 10 ⁻⁶ Max.				After reflow, +25 °C
b) Frequency/temperature Characteristics	f _o -Tc	A: ±0.1 × 10 ⁻⁶ Max. / G: -40 °C to +85 °C H: ±0.25 × 10 ⁻⁶ Max. / G: -40 °C to +85 °C B: ±0.28 × 10 ⁻⁶ Max. / G: -40 °C to +85 °C				Reference to (fmax+fmin)/2
c) Frequency/load coefficient	f _o -Load	±0.1 × 10 ⁻⁶ Max.				Load ±10 %
d) Frequency/voltage coefficient	f _o -Vcc	±0.1 × 10 ⁻⁶ Max.				Vcc ±5%
e) Frequency aging	f _{age}	±0.5 × 10 ⁻⁶ Max. ±3.0 × 10 ⁻⁶ Max.				+25 °C, First year +25 °C, 20 years
Holdover stability (Constant temperature)	-	±0.01 × 10 ⁻⁶ Max. (+25 °C, 24 hours)				After 10 days of continuous operation.
Free-run accuracy	-	±0.04 × 10 ⁻⁶ Max. (+25 °C, 24 hours)				After 48 hours of continuous operation.
Current consumption	I _{cc}	5.0 mA Max. 6.0 mA Max.		5.0 mA Max.		This includes Item a),b),c),d)and e) 10 MHz ≤ f _o ≤ 26 MHz 26 MHz < f _o ≤ 40 MHz
Input resistance	R _{in}	100 kΩ Min.	—	100 kΩ Min.	—	Vc- GND (DC)
Frequency control range	f _{cont}	±5 × 10 ⁻⁶ to ±10 × 10 ⁻⁶	—	±5 × 10 ⁻⁶ to ±10 × 10 ⁻⁶	—	D :Vc=1.5 V ± 1.0 V at V _{CC} =3.3 V E: Vc=1.65 V ± 1.0 V at V _{CC} =3.3 V
Frequency change polarity	—	Positive polarity	—	Positive polarity	—	
Symmetry	SYM	45 % to 55 %		—		50 % Vcc level, L_CMOS ≤ 15 pF
Output voltage	V _{OH}	90 % Vcc Min.		—		
	V _{OL}	10 % Vcc Max.		—		
Output level	V _{PP}	—		0.8 V Min.		Peak to Peak
Rise time / Fall time	t _r / t _f	8.0 ns Max.		—		10 % Vcc to 90 % Vcc level, Load:15 pF
Start-up time	t _{str}	5.0 ms Max.				T=0 at 90% Vcc
Output load condition	Load	15 pF		10 kΩ/10 pF		

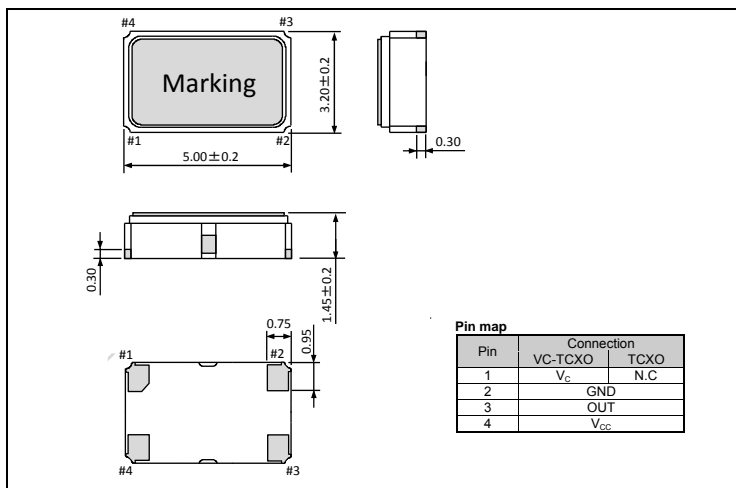
* Note : Please contact us for requirements not listed in this specification.

Product Name **TG5032 C FN 30.720000MHz C A G N D A**
(Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ①Model ②Output (C: CMOS, S: Clipped sine wave) ③Frequency ④Supply voltage (C: 3.3 V Typ.)
- ⑤Frequency / temperature characteristics (A: ±0.1 × 10⁻⁶ Max., H: ±0.25 × 10⁻⁶ Max., B: ±0.28 × 10⁻⁶ Max.)
- ⑥Operating temperature (G: -40 °C to +85 °C) ⑦OE function (N: Non)
- ⑧Vc function (A: Vc =any, D: Vc =1.5 V, E: Vc =1.65 V, N: Non) ⑨Internal identification code ("A" is default)

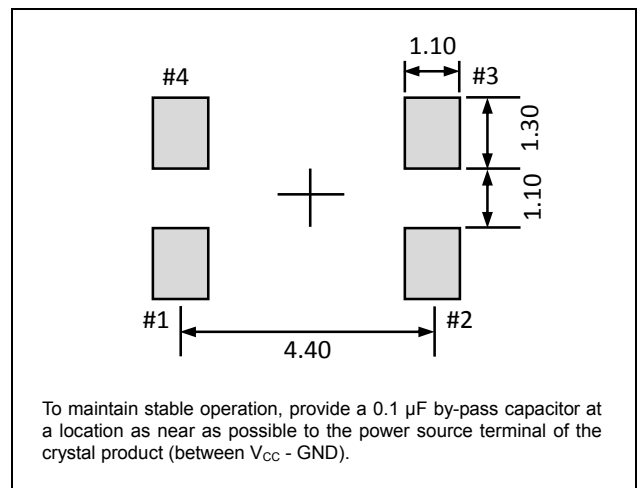
External dimensions

(Unit :mm)



Footprint (Recommended)

(Unit :mm)



PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.





WORKING FOR HIGH QUALITY

In order provide high quality and reliable products and services than meet customer needs,

Seiko Epson made early efforts towards obtaining ISO9000 series certification and has acquired ISO9001 for all business establishments in Japan and abroad. We have also acquired ISO/TS 16949 certification that is requested strongly by major automotive manufacturers as standard.

ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

► Explanation of the mark that are using it for the catalog

	► Pb free.
	► Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

Notice

- This material is subject to change without notice.
- Any part of this material may not be reproduced or duplicated in any form or any means without the written permission of Seiko Epson.
- The information about applied data, circuitry, software, usage, etc. written in this material is intended for reference only. Seiko Epson does not assume any liability for the occurrence of customer damage or infringing on any patent or copyright of a third party. This material does not authorize the licensing for any patent or intellectual copyrights.
- When exporting the products or technology described in this material, you should comply with the applicable export control laws and regulations and follow the procedures required by such laws and regulations.
- You are requested not to use the products (and any technical information furnished, if any) for the development and/or manufacture of weapon of mass destruction or for other military purposes. You are also requested that you would not make the products available to any third party who may use the products for such prohibited purposes.
- These products are intended for general use in electronic equipment. When using them in specific applications that require extremely high reliability, such as the applications stated below, you must obtain permission from Seiko Epson in advance.
/ Space equipment (artificial satellites, rockets, etc.) / Transportation vehicles and related (automobiles, aircraft, trains, vessels, etc.) / Medical instruments to sustain life / Submarine transmitters / Power stations and related / Fire work equipment and security equipment / traffic control equipment / and others requiring equivalent reliability.
- All brands or product names mentioned herein are trademarks and/or registered trademarks of their respective.