

TCXO / VC-TCXO
HIGH STABILITY



Product Number
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, SyncE, IEEE1588
- Features : High stability, Wide temperature range



Specifications (characteristics)

Item	Symbol	TG5032CFN (CMOS output)		TG5032SFN(Clipped sine wave)		Conditions / Remarks
		TCXO	VC-TCXO	TCXO	VC-TCXO	
Output frequency range	f _o	10 MHz to 40 MHz				Standard frequency
Supply voltage	V _{CC}	10, 12.8, 19.2, 20, 24.576, 25, 25.6, 26, 30.72, 38.4, 38.88, 40 MHz				
Storage temperature	T _{stg}	C: 3.3 V ± 5 % (Supply voltage range: 2.375 V to 3.63 V)				Storage as single product
Operating temperature	T _{use}	-40 °C to +90 °C				Standard temp. range
a) Frequency tolerance	f _{tol}	G: -40 °C to +85 °C				After reflow, +25 °C
b) Frequency/temperature Characteristics	f _o -Tc	±1.0 × 10 ⁻⁶ Max.				Reference to (f _{max} + f _{min}) / 2
c) Frequency/load coefficient	f _o -Load	A: ±0.1 × 10 ⁻⁶ Max. / -40 °C to +85 °C				
d) Frequency/voltage coefficient	f _o -V _{CC}	H: ±0.25 × 10 ⁻⁶ Max. / -40 °C to +85 °C				
e) Frequency aging	f _{age}	B: ±0.28 × 10 ⁻⁶ Max. / -40 °C to +85 °C				Load ± 10 %
Holdover stability (Constant temperature)	-	±0.1 × 10 ⁻⁶ Max.				V _{CC} ± 5%
Wander generation (MTIE, TDEV)	-	±0.1 × 10 ⁻⁶ Max.				+25 °C, First year
Free-run accuracy	-	±0.5 × 10 ⁻⁶ Max.				+25 °C, 20 years
Current consumption	I _{CC}	±3.0 × 10 ⁻⁶ Max.				After 10 days of continuous operation.
Input resistance	R _{in}	±0.01 × 10 ⁻⁶ Max. (+25 °C, 24 hours)				After 48 hours of continuous operation.
Frequency control range	f _{cont}	±0.04 × 10 ⁻⁶ Max. (+25 °C, 24 hours)				Compliant with GR-1244CORE, ITU-T G.8262
Frequency change polarity	-	-				This includes Item a), b), c), d) and e)
Symmetry	SYM	±4.6 × 10 ⁻⁶ Max.				10 MHz ≤ f _o ≤ 26 MHz
Output voltage	V _{OH} V _{OL}	5.0 mA Max. 6.0 mA Max.		5.0 mA Max.		26 MHz < f _o ≤ 40 MHz
Output level	V _{pp}	-		-		V _{CC} - GND (DC)
Rise time / Fall time	tr/tf	-		-		D : V _c = 1.5 V ± 1.0 V at V _{CC} = 3.3 V
Start-up time	t _{str}	-		-		E : V _c = 1.65 V ± 1.0 V at V _{CC} = 3.3 V
Output load condition	Load	15 pF		10 kΩ // 10 pF		50 % V _{CC} level, L_CMOS ≤ 15 pF

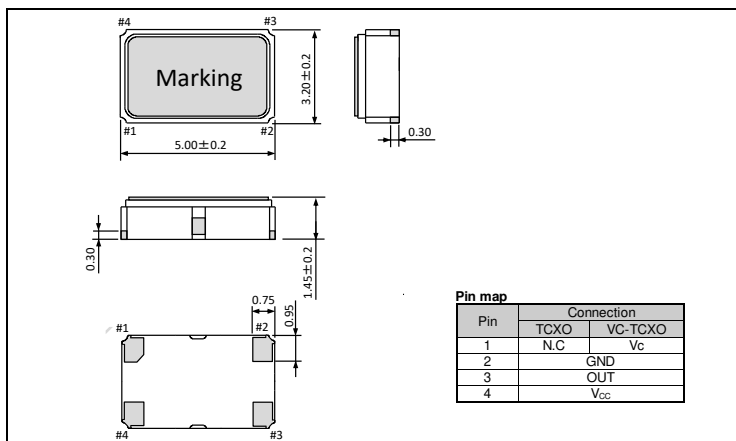
* Note : Please contact us for requirements not listed in this specification.

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

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

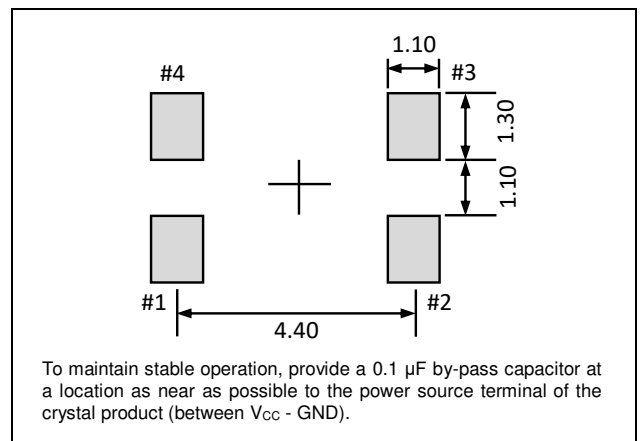
External dimensions

(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 IATF 16949 certification that is requested strongly by major automotive manufacturers as standard.

IATF 16949 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).

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