



TCXO / VC-TCXO

ULTRA HIGH STABILITY



Product Number
 TG5032CAN : X1G004431xxxxxx
 TG5032SAN : X1G004441xxxxxx

TG5032CAN

TG5032SAN



- Frequency range : 10 MHz to 50 MHz
- Supply voltage : 3.3 V Typ. / 5.0V Typ.
- Frequency / temperature characteristics : $\pm 0.1 \times 10^{-6}$ Max. *1
- Frequency aging : $\pm 0.02 \times 10^{-6}$ Max./24 hours *2
- External dimensions: 5.0 × 3.2 × 1.45 mm (10 pads)
- Applications : FemtoCell, Small Cells
- Features : Ultra high stability

Specifications (characteristics)

Item	Symbol	TG5032CAN (CMOS output)		TG5032SAN (Clipped sine wave)		Conditions / Remarks
		VC-TCXO	TCXO	VC-TCXO	TCXO	
Output frequency range	f_o	10 MHz to 50 MHz 19.2, 26, 30.72, 40 MHz				Standard frequency
Supply voltage	V_{CC}	C: 3.3 V $\pm 5\%$, H: 5.0 V $\pm 5\%$ (Supply voltage range : 2.7 V to 5.5 V)				
Storage temperature	T stg	-40 °C to +90 °C				Storage as single product
Operating temperature	T use	A: 0 °C to +70 °C				Standard temp. range
Frequency tolerance	f tol	$\pm 2.0 \times 10^{-6}$ Max.				After reflow, +25 °C
Frequency/temperature Characteristics *1	f_o -Tc	A: $\pm 0.1 \times 10^{-6}$ Max. H: $\pm 0.25 \times 10^{-6}$ Max.				A: 0 to +70 °C (standard spec.) G: -40 to +85 °C (Option spec.)
Frequency/load coefficient	f_o -Load	$\pm 0.1 \times 10^{-6}$ Max. (10 MHz $\leq f_o \leq 40$ MHz) $\pm 0.2 \times 10^{-6}$ Max. (40 MHz $< f_o \leq 50$ MHz)				Load $\pm 10\%$
Frequency/voltage coefficient	f_o -Vcc	$\pm 0.1 \times 10^{-6}$ Max. (10 MHz $\leq f_o \leq 40$ MHz) $\pm 0.2 \times 10^{-6}$ Max. (40 MHz $< f_o \leq 50$ MHz)				Vcc $\pm 5\%$
Frequency aging *2	f age	$\pm 0.02 \times 10^{-6}$ Max. $\pm 1.0 \times 10^{-6}$ Max.				+25 °C, 24h +25 °C, First year
Current consumption	Icc	5.0 mA Max. / 6.0 mA Max. 6.0 mA Max. / 8.0 mA Max. 8.0 mA Max. / 10.0 mA Max.		5.0 mA Max.		10 MHz $\leq f_o \leq 26$ MHz (3.3V / 5.0V) 26 MHz $< f_o \leq 40$ MHz (3.3V / 5.0V) 40 MHz $< f_o \leq 50$ MHz (3.3V / 5.0V)
Input resistance	Rin	100 k Ω Min.	—	100 k Ω Min.	—	Vc- GND (DC)
Frequency control range	f_cont	$\pm 5 \times 10^{-6}$ to $\pm 10 \times 10^{-6}$	—	$\pm 5 \times 10^{-6}$ to $\pm 10 \times 10^{-6}$	—	J,D : Vc=1.5 V ± 1.0 V at Vcc=3.3 V K,E : Vc=1.65 V ± 1.0 V at Vcc=3.3 V L,H : Vc=2.5 V ± 2.0 V at Vcc=5.0 V
Frequency change polarity	—	Positive polarity	—	Positive polarity	—	
Symmetry	SYM	45 % to 55 %		—		GND level (DC cut)
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	tr/ft	8.0 ns Max.		—		10% Vcc to 90 % Vcc level, Load: 15 pF
Start-up time	t _{str}	2.0 sec. Max. (Filter: Standard) / 5.0 ms Max. (Non-Filter: Option)				T=0 at 90% Vcc
Output load condition	Load	15 pF		10 k Ω /10 pF		

* Note : Please contact us for requirements not listed in this specification. *1 Based on frequency at (fmax+fmin)/2. *2 After 48 hours operating

Product Name TG5032 CAN 19.200000MHz C A A N D A
 (Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

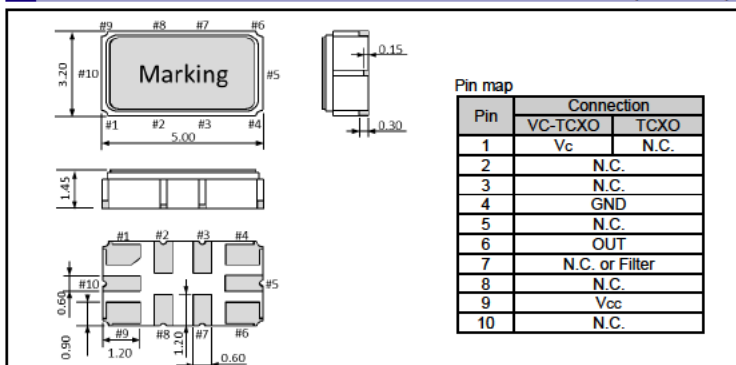
- ① Model ② Output (C: CMOS, S: Clipped sine wave)
 ③ Frequency ④ Supply voltage (C: 3.3 V Typ.)
 ⑤ Frequency / temperature characteristics (A: $\pm 0.1 \times 10^{-6}$ Max.) ⑥ Operating temperature (A: 0 °C to +70 °C)
 ⑦ OE function (N: Non) ⑧ Vc function (Refer to symbol table) ⑨ Internal identification code ("A" is default)

⑧ Vc function (symbol table)

Vc [V]	Non	1.5	1.65	2.5	Any
Filter ON	G	J	K	L	F
Non Filter	N	D	E	H	A

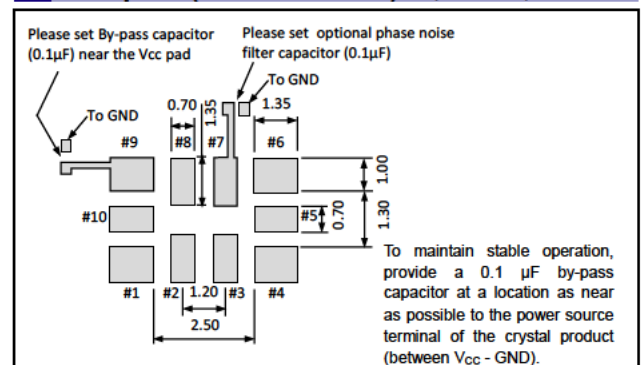
External dimensions

(Unit : mm)



Footprint (Recommended)

(Unit : mm)



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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.

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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.
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