

VC-TCXO/TCXO
HIGH STABILITY

TG1612SAN



Product Number (Please contact us)
X1G004681XXXXXX



Actual size



- Output frequency : 13 MHz to 52 MHz
- Supply voltage : 1.8V Typ./ 2.8V Typ./ 3.0V Typ./ 3.3V Typ.
- Frequency / temperature characteristics : $\pm 0.5 \times 10^{-6}$ Max. or $\pm 2.0 \times 10^{-6}$ Max.
- External dimensions: 1.6 × 1.2 × 0.65 mm
- Applications : GPS, RF
- Features : High stability, Ultra small size

Specifications (characteristics)

Item	Symbol	VC-TCXO	TCXO	Conditions / Remarks
Output frequency range	f_0	13 MHz to 52MHz 26 MHz		Standard frequency
Supply voltage	Vcc	1.8 V ± 0.1 V / 2.8 V ± 5 % / 3.0 V ± 5 % / 3.3 V ± 5 %		Supply voltage range : 1.7 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 / N: -30 °C to +85 °C		
Frequency tolerance	f _{tol}	$\pm 2.0 \times 10^{-6}$ Max.		After reflow, +25 °C
Frequency/temperature characteristics	f _{0-Tc}	-	C: $\pm 0.5 \times 10^{-6}$ Max. / N: -30 °C to +85 °C	High stability version (for GPS)
		F: $\pm 2.0 \times 10^{-6}$ Max. / N: -30 °C to +85 °C	F: $\pm 2.0 \times 10^{-6}$ Max. / N: -30 °C to +85 °C	Standard stability version (for RF)
		J: $\pm 1.0 \times 10^{-6}$ Max. / G: -40 °C to +85 °C	C: $\pm 0.5 \times 10^{-6}$ Max. / G: -40 °C to +85 °C	Customized product (Option)
Frequency/load coefficient	f _{0-Load}	$\pm 0.2 \times 10^{-6}$ Max.		10 k Ω // 10 pF ± 10 %
Frequency/voltage coefficient	f _{0-Vcc}	$\pm 0.2 \times 10^{-6}$ Max.		Vcc ± 5 %
Frequency aging	f _{age}	$\pm 1.0 \times 10^{-6}$ Max.		+25 °C, First year, 13 MHz $\leq f_0 \leq 20$ MHz, 26 MHz $\leq f_0 \leq 40$ MHz
		$\pm 1.5 \times 10^{-6}$ Max.		+25 °C, First year, 20 MHz $< f_0 < 26$ MHz 40 MHz $< f_0 \leq 52$ MHz
Current consumption	I _{cc}	1.5 mA Max.		13 MHz $\leq f_0 \leq 26$ MHz
		2.0 mA Max		26MHz $< f_0$
Input resistance	R _{in}	500 k Ω Min.	-	Vc - GND (DC)
Frequency control range	f _{cont}	$\pm 8.0 \times 10^{-6}$ to $\pm 15.0 \times 10^{-6}$		B: Vc = 0.9 V ± 0.6 V (Vcc = 1.8 V) or C: Vc = 1.4 V ± 1.0 V (Vcc = 2.8 V) or D: Vc = 1.5 V ± 1.0 V (Vcc = 3.0 V) or E: Vc = 1.65 V ± 1.0 V (Vcc = 3.3 V)
Frequency change polarity	-	Positive polarity		-
Symmetry	SYM	40 % to 60 %		GND level (DC cut)
Output voltage	V _{PP}	0.8 V Min.		Peak to Peak
Start-up time	t _{str}	2.0 ms Max.		T=0 at 90% Vcc
Output load condition	Load _R	10 k Ω		DC cut capacitor = 0.01 μ F
	Load _C	10 pF		

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

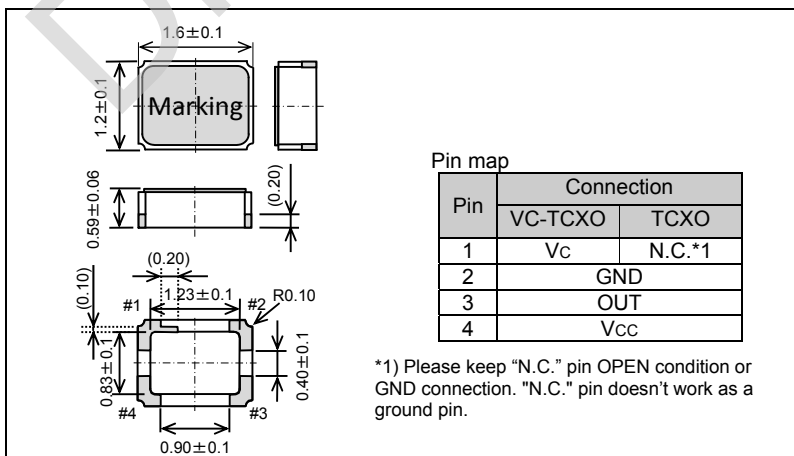
Product Name **TG1612 SAN 26.000000MHz E C N N N M**
(Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- ① Model ② Output (S: Clipped sine wave)
- ③ Frequency ④ Supply voltage (Refer to symbol table)
- ⑤ Frequency / temperature characteristics (C: $\pm 0.5 \times 10^{-6}$ Max.) ⑥ Operating temperature (N: -30 °C to +85 °C)
- ⑦ Standby function (N: Non) ⑧ Vc function (Refer to symbol table, A: Vc = any) ⑨ Internal identification code ("L", "M", "H" is default)

④ Supply voltage[Vcc] , ⑧ Vc function[Vc] (Symbol table)					
Voltage [V]	TCXO	VC-TCXO			
⑤ Vcc (Typ.)	E: 1.8 M: 2.8 to 3.3	E: 1.8	B: 2.8	A: 3.0	C: 3.3
⑧ Vc (Typ.)	N: Non	B: 0.9	C: 1.4	D: 1.5	E: 1.65

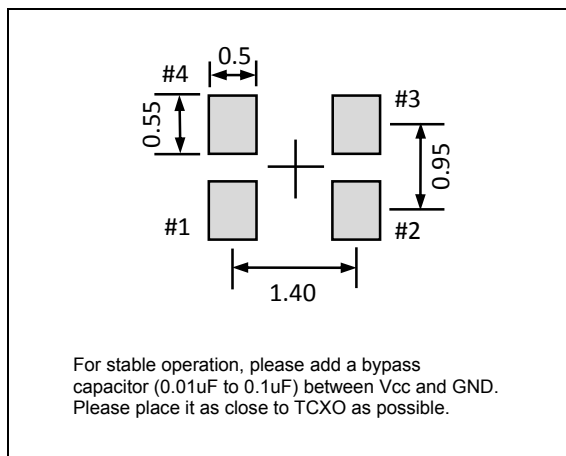
External dimensions

(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.





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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).

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