

TCXO / TCXO-Standby
105 °C High temperature range



Product Number
TG1612SLN : X1G005721xxxx16

TG1612SLN

- Output frequency : 13 MHz to 55.2 MHz
- Supply voltage : 1.8 V Typ./ 2.8 V Typ./ 3.0 V Typ./ 3.3 V Typ.
- Frequency / temperature characteristics : $\pm 0.5 \times 10^{-6}$ Max. (-40 °C to +85 °C) and $\pm 5.0 \times 10^{-6}$ Max. (+85 °C to +105 °C)
- External dimensions: 1.6 × 1.2 × 0.45 mm Max.
- Applications : Smart phone, LPWA module
Wireless communication devices
- Features : 105 °C High temp. Standby function (ST)



TG1612SLN
(1.6 × 1.2 × 0.45 mm)

Specifications (characteristics)

Item	Symbol	TCXO		TCXO-Standby	Conditions / Remarks
		13 MHz to 55.2 MHz 26 MHz			
Output frequency range	f _o				Standard frequency
Supply voltage	V _{CC}	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 range	T _{stg}	-40 °C to +125 °C			Storage as single product.
Operating temperature range	T _{use}	G: -40 °C to +85 °C / H: -40 °C to +105 °C			
Frequency tolerance	f _{tol}	±2.0 × 10 ⁻⁶ Max.			After reflow, +25 °C
Frequency/temperature characteristics	f ₀ -Tc	C: ±0.5 × 10 ⁻⁶ Max. / -40 °C to +85 °C W: And ±5.0 × 10 ⁻⁶ Max. / +85 °C to +105 °C (Option)			Standard stability version Customized product (Option)
Frequency/load coefficient	f ₀ -Load	±0.2 × 10 ⁻⁶ Max.			10 kΩ // 10 pF ±10 %
Frequency/voltage coefficient	f ₀ -Vcc	±0.2 × 10 ⁻⁶ Max.			V _{CC} ± 5 %
Frequency aging	f _{age}	±1.0 × 10 ⁻⁶ Max.			+25 °C, First year, 13 MHz ≤ f _o ≤ 20 MHz, 26 MHz ≤ f _o ≤ 40 MHz
		±1.5 × 10 ⁻⁶ Max.			+25 °C, First year, 20 MHz < f _o < 26 MHz 40 MHz < f _o ≤ 55.2 MHz
Current consumption	I _{CC}	1.5 mA Max.			13 MHz < f _o ≤ 26 MHz (-40 to +85 °C)
		1.7 mA Max.			13 MHz < f _o ≤ 26 MHz (-40 to +105 °C)
		2.0 mA Max.			26 MHz < f _o ≤ 38.4 MHz (-40 to +105 °C)
		2.5 mA Max.			38.4 MHz < f _o ≤ 55.2 MHz (-40 to +105 °C)
Stand-by current	I _{std}	-		3 μA Max.	ST = GND
Input voltage	V _{IH}	-		80 % V _{CC} Min.	ST terminal
	V _{IL}	-		20 % V _{CC} Max.	
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 % V _{CC}
Output load	Load _R	10 kΩ			DC cut capacitor = 0.01 μF
	Load _C	10 pF			

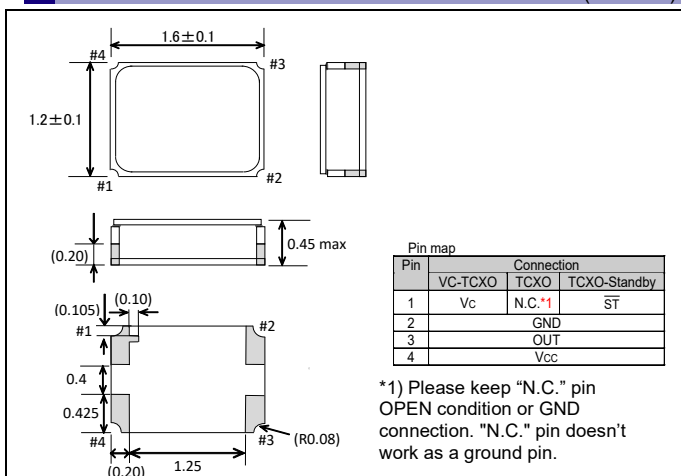
* Note : Please contact us for requirements not listed in this specification.

④ Supply voltage[V _{CC}], ⑧ Vc function[Vc] (Symbol table)	
④, ⑧ Type: Function	Suffix symbol: Voltage(Typ.) [V]
④ V _{CC} : Common	E: 1.8 B: 2.8 A: 3.0 C: 3.3
⑧ Vc:	N: Non

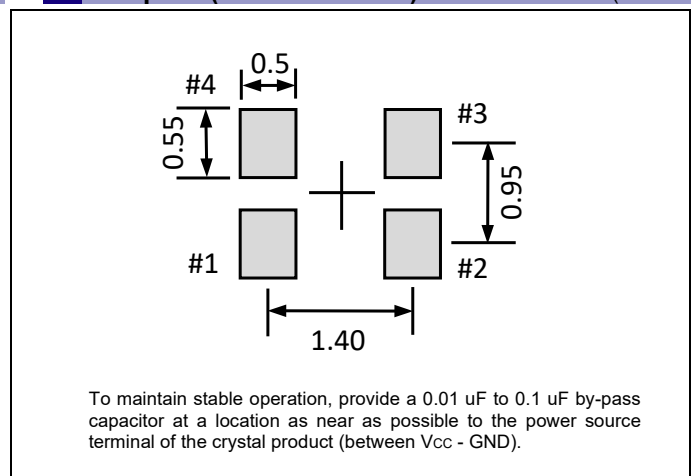
Product Name TG1612 SLN 26.000000MHz E W H S N M
(Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- 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., F: $\pm 2.0 \times 10^{-6}$ Max., W: $\pm 0.5 \times 10^{-6}$ Max. and $\pm 5.0 \times 10^{-6}$ Max.)
- ⑥ Operating temperature (H: -40 °C to +105 °C, G: -40 °C to +85 °C) ⑦ ST function (N: Non, S: Standby)
- ⑧ Vc function(N: Non for TCXO, Standby mode) ⑨ Internal identification code ("M" 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.

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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

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	► 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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