

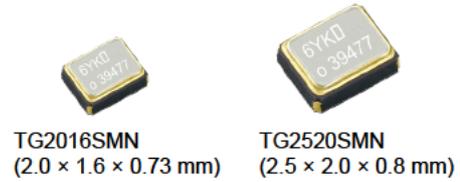
VC-TCXO / TCXO
HIGH STABILITY / Low noise



Product Number
TG2016SMN : X1G005441xxxx25
TG2520SMN : X1G005421xxxx27

TG2016SMN / TG2520SMN

- Output frequency : 10 MHz to 55MHz
- 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)
 - : $\pm 2.0 \times 10^{-6}$ Max. (-40 C to +85 C)
- External dimensions: 2.0 x 1.6 x 0.73 mm / 2.5 x 2.0 x 0.8 mm
- Applications : GPS, RF
Wireless communication devices
(LTE, WiMAX, Wi-Fi, W-LAN, IoT other)
- Features : Low noise



Specifications (characteristics)

Item	Symbol	VC-TCXO	TCXO	Conditions / Remarks
Output frequency range	f _o	10 MHz to 55MHz 16, 16.368, 16.369, 19.2, 20, 24, 25, 26, 27, 27.6, 30, 32, 38.4, 40, 48, 50, 52 MHz		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	T _{stg}	-40 °C to +90 °C		Storage as single product.
Operating temperature	T _{use}	G: -40 C to +85 C		
Frequency tolerance	f _{tol}	$\pm 1.5 \times 10^{-6}$ Max.		After reflow, +25 °C
Frequency/temperature characteristics	f _o -T _c	C: $\pm 0.5 \times 10^{-6}$ Max. / G: -40 C to +85 C F: $\pm 2.0 \times 10^{-6}$ Max. / G: -40 C to +85 C		Standard stability version
Frequency/load coefficient	f _o -Load	$\pm 0.1 \times 10^{-6}$ Max.		10 k Ω // 10 pF ± 10 %
Frequency/voltage coefficient	f _o -V _{cc}	$\pm 0.1 \times 10^{-6}$ Max.		V _{cc} ± 5 %
Frequency aging	f _{age}	$\pm 0.5 \times 10^{-6}$ Max.		+25 °C, First year, 10MHz, 12 MHz \leq f _o \leq 20 MHz, 24 MHz \leq f _o \leq 40 MHz
		$\pm 1.5 \times 10^{-6}$ Max.		+25 °C, First year, 10 MHz $<$ f _o $<$ 12 MHz, 20 MHz $<$ f _o $<$ 24 MHz, 40 MHz $<$ f _o \leq 55 MHz
Current consumption	I _{cc}	1.5 mA Max.		10 MHz \leq f _o \leq 26 MHz
		1.8 mA Max.		26 MHz $<$ f _o \leq 40 MHz
		2.0 mA Max.		40 MHz $<$ f _o \leq 50 MHz
		2.1 mA Max.		50 MHz $<$ f _o \leq 55 MHz
Input resistance	R _{in}	500 k Ω Min.	-	V _c - GND (DC)
Frequency control range	f _{cont}	$\pm 8.0 \times 10^{-6}$ to $\pm 12.0 \times 10^{-6}$	-	B: V _c = 0.9 V ± 0.6 V (V _{cc} = 1.8 V) or C: V _c = 1.4 V ± 1.0 V (V _{cc} = 2.8 V) or D: V _c = 1.5 V ± 1.0 V (V _{cc} = 3.0 V) or E: V _c = 1.65 V ± 1.0 V (V _{cc} = 3.3 V)
Frequency change polarity	-	Positive polarity	-	
Symmetry	SYM	45 % to 55 %		GND level (DC cut)
Output voltage	V _{PP}	0.8 V Min.		Peak to Peak
Start-up time	t _{str}	1.0 ms Max.		T=0 at 90% V _{cc}
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 TG2016 SMN 26.000000MHz E C G N N M
(Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Model (TG2016, TG2520)

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.)

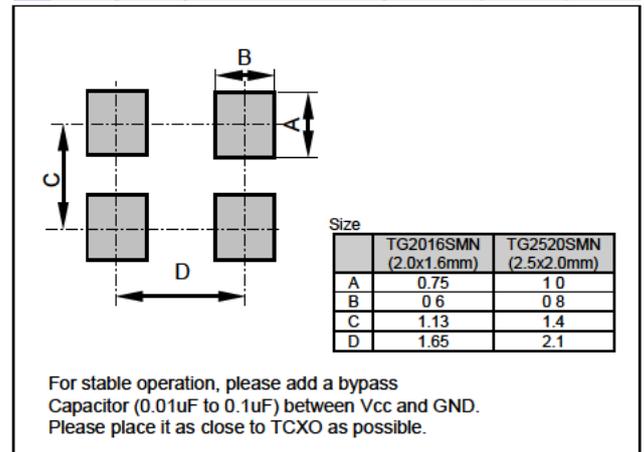
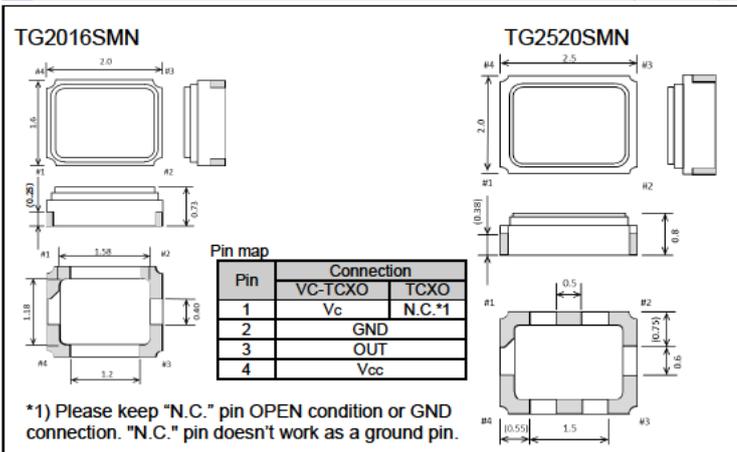
⑥ Operating temperature (G: -40 C to +85 C) ⑦ ST function (N: Non)

⑧ V_c function (Refer to symbol table, A: V_c = any) ⑨ Internal identification code ("M" is default)

④ Supply voltage [V _{cc}] , ⑧ V _c function [V _c] (Symbol table)				
Voltage [V]	TCXO	VC-TCXO		
④ V _{cc} (Typ.)	E: 1.8 M: 2.8 to 3.3	E: 1.8	B: 2.8	A: 3.0 C: 3.3
⑧ V _c (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.

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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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