



# TCXO / VC-TCXO

## HIGH STABILITY / Low noise



Product Number  
**TG2016SMN : X1G005441xxxx25**  
**TG2520SMN : X1G005421xxxx27**

# TG2016SMN / TG2520SMN

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



TG2016SMN  
(2.0 × 1.6 × 0.73 mm)



TG2520SMN  
(2.5 × 2.0 × 0.8 mm)

## Specifications (characteristics)

Item	Symbol	TCXO	VC-TCXO	Conditions / Remarks
Output frequency range	fo	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 <sub>CC</sub>	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 <sub>stg</sub>	-40 °C to +90 °C		Storage as single product.
Operating temperature range	T <sub>use</sub>	G: -40 °C to +85 °C		
Frequency tolerance	f <sub>tol</sub>	±1.5 × 10 <sup>-6</sup> Max.		After reflow, +25 °C
Frequency/temperature characteristics	fo-Tc	C: ±0.5 × 10 <sup>-6</sup> Max. / -40 °C to +85 °C F: ±2.0 × 10 <sup>-6</sup> Max. / -40 °C to +85 °C		Standard stability version
Frequency/load coefficient	fo-Load	±0.1 × 10 <sup>-6</sup> Max.		10 kΩ // 10 pF ± 10 %
Frequency/voltage coefficient	fo-V <sub>CC</sub>	±0.1 × 10 <sup>-6</sup> Max.		V <sub>CC</sub> ± 5 %
Frequency aging	f <sub>age</sub>	±0.5 × 10 <sup>-6</sup> Max.		+25 °C, First year, fo = 10MHz, 12 MHz ≤ fo ≤ 20 MHz, 24 MHz ≤ fo ≤ 40 MHz
		±1.5 × 10 <sup>-6</sup> Max.		+25 °C ,First year, 10 MHz < fo < 12 MHz, 20 MHz < fo < 24 MHz, 40 MHz < fo ≤ 55 MHz
Current consumption	I <sub>CC</sub>	1.5 mA Max.		10 MHz ≤ fo ≤ 26 MHz
		1.8 mA Max.		26 MHz < fo ≤ 40 MHz
		2.0 mA Max.		40 MHz < fo ≤ 50 MHz
		2.1 mA Max.		50 MHz < fo ≤ 55 MHz
Input impedance	Zin	500 kΩ Min.	-	Vc - GND (DC)
Frequency control range	f <sub>cont</sub>	-	±5.0 × 10 <sup>-6</sup> Min.	B: Vc = 0.9 V ± 0.6 V (V <sub>CC</sub> = 1.8 V) or C: Vc = 1.4 V ± 1.0 V (V <sub>CC</sub> = 2.8 V) or D: Vc = 1.5 V ± 1.0 V (V <sub>CC</sub> = 3.0 V) or E: Vc = 1.65 V ± 1.0 V (V <sub>CC</sub> = 3.3 V)
Frequency change polarity	f <sub>cp</sub>	-	Positive polarity	
Symmetry	SYM	40 % to 60 %		GND level (DC cut)
Output voltage	Vpp	0.8 V Min.		Peak to Peak
Start-up time	t <sub>str</sub>	1.0 ms Max.		t = 0 at 90% V <sub>CC</sub>
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.

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: ±0.5 × 10<sup>-6</sup> Max., F: ±2.0 × 10<sup>-6</sup> Max.)

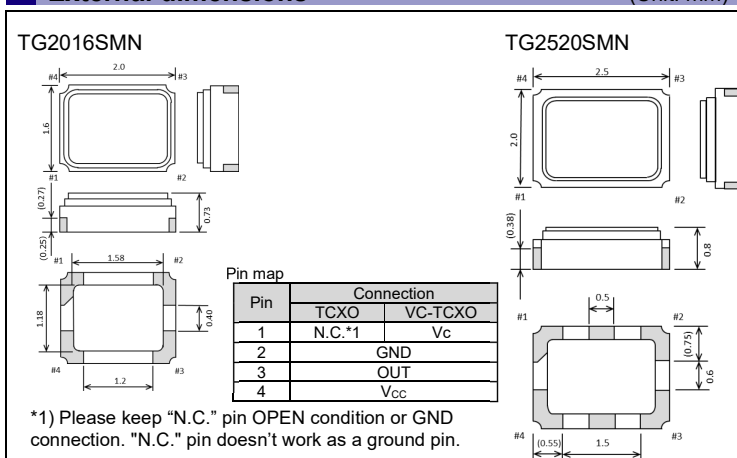
⑥ Operating temperature (G: -40 °C to +85 °C) ⑦ ST function (N: Non)

⑧ V<sub>c</sub> function (Refer to symbol table, A: V<sub>c</sub> = any) ⑨ Internal identification code ("M" is default)

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

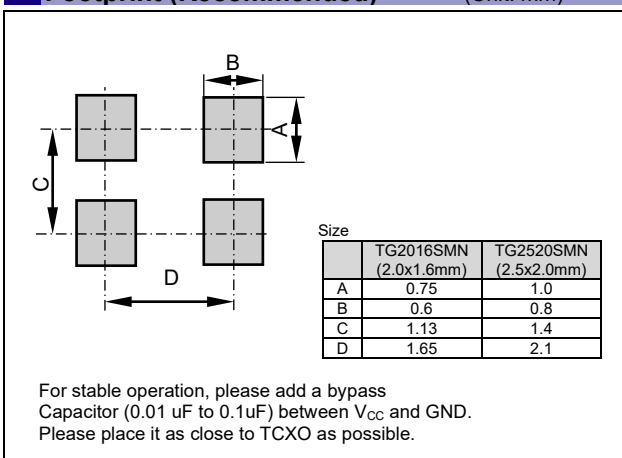
## External dimensions

(Unit: mm)







## Footprint (Recommended)

(Unit: mm)



► 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.)
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