

TCXO / VC-TCXO  
HIGH STABILITY



Product Number  
TG5032CGN : X1G005231xxxxxx  
TG5032SGN : X1G005241xxxxxx

TG5032CGN / SGN

- Frequency range : 10 MHz to 40 MHz
- Supply voltage : 3.3 V Typ.
- Frequency / temperature characteristics :  $\pm 0.1 \times 10^{-6}$  Max. (-40 °C to +85 °C)
- Frequency aging :  $\pm 3.0 \times 10^{-6}$  Max. / 20 years
- External dimensions : 5.0 × 3.2 × 1.45 mm (10 pins)
- Applications : Small Cells, Stratum3, SyncE, IEEE1588
- Features : High stability, Wide temperature range



TG5032CGN (CMOS)



TG5032SGN (Clipped Sine)

Specifications (characteristics)

Item	Symbol	TG5032CGN (CMOS)		TG5032SGN(Clipped sine wave)		Conditions / Remarks
		TCXO	VC-TCXO	TCXO	VC-TCXO	
Output frequency range	fo	10 MHz to 40 MHz				Standard frequency
Supply voltage	V <sub>CC</sub>	10,12.8, 19.2, 20, 24.576, 25, 25.6, 26, 30.72, 38.4, 38.88, 40 MHz C: 3.3 V ± 5 % (Supply voltage range: 2.375 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				
a) Frequency tolerance	f <sub>tol</sub>	$\pm 1.0 \times 10^{-6}$ Max.				After reflow, +25 °C
b) Frequency/temperature Characteristics	fo-Tc	A: $\pm 0.1 \times 10^{-6}$ Max. / -40 °C to +85 °C H: $\pm 0.25 \times 10^{-6}$ Max. / -40 °C to +85 °C B: $\pm 0.28 \times 10^{-6}$ Max. / -40 °C to +85 °C				Reference to (fmax + fmin) / 2
c) Frequency/load coefficient	fo-Load	$\pm 0.1 \times 10^{-6}$ Max.				Load ± 10 %
d) Frequency/voltage coefficient	fo-V <sub>CC</sub>	$\pm 0.1 \times 10^{-6}$ Max.				V <sub>CC</sub> ± 5 %
e) Frequency aging	f <sub>age</sub>	$\pm 0.5 \times 10^{-6}$ Max. $\pm 3.0 \times 10^{-6}$ Max.				+25 °C, First year +25 °C, 20 years
Holdover stability (Constant temperature)	-	$\pm 0.01 \times 10^{-6}$ Max. (+25 °C, 24 hours)				After 10 days of continuous operation.
Wander generation (MTIE, TDEV)	-	$\pm 0.04 \times 10^{-6}$ Max. (+25 °C, 24 hours)				After 48 hours of continuous operation.
Free-run accuracy	-	$\pm 4.6 \times 10^{-6}$ Max.				Compliant with GR-1244CORE, ITU-T G.8262 This includes Item a), b), c), d) and e)
Current consumption	I <sub>CC</sub>	5.0 mA Max. 6.0 mA Max.		5.0 mA Max.		10 MHz ≤ fo ≤ 26 MHz 26 MHz < fo ≤ 40 MHz
Input resistance	R <sub>in</sub>	-	100 kΩ Min.	-	100 kΩ Min.	V <sub>c</sub> - GND (DC)
Frequency control range	f <sub>cont</sub>	-	$\pm 5 \times 10^{-6}$ to $\pm 10 \times 10^{-6}$	-	$\pm 5 \times 10^{-6}$ to $\pm 10 \times 10^{-6}$	D, J: V <sub>c</sub> = 1.5 V ± 1.0 V at V <sub>CC</sub> = 3.3 V E, K: V <sub>c</sub> = 1.65 V ± 1.0 V at V <sub>CC</sub> = 3.3 V
Frequency change polarity	-	-	Positive polarity	-	Positive polarity	
Symmetry	SYM	45 % to 55 %		-		50 % V <sub>CC</sub> level, L_CMOS ≤ 15 pF
Output voltage	V <sub>OH</sub> V <sub>OL</sub>	90 % V <sub>CC</sub> Min. 10 % V <sub>CC</sub> Max.		-		
Output level	V <sub>pp</sub>	-		0.8 V Min.		Peak to Peak
Rise time / Fall time	tr/tf	8.0 ns Max.		-		10 % V <sub>CC</sub> to 90 % V <sub>CC</sub> level, Load: 15 pF
Start-up time	t <sub>str</sub>	5.0 ms Max. (Non-Filter: Standard) / 2.0 sec. Max. (Filter: Option)				t = 0 at 90% V <sub>CC</sub>
Output load condition	Load	15 pF		10 kΩ // 10 pF		
Input voltage	V <sub>IH</sub> V <sub>IL</sub>	70% V <sub>CC</sub> Min. 30% V <sub>CC</sub> Max.				OE terminal (Enable voltage) OE terminal (Disable voltage)

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

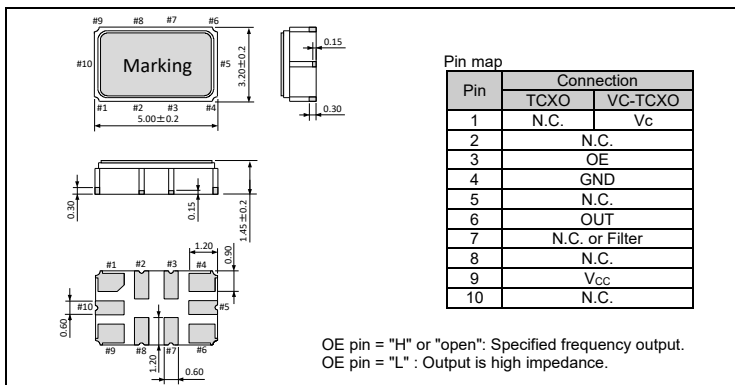
Product Name TG5032 C GN 30.720000MHz C A G H D A  
(Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

- 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., H:  $\pm 0.25 \times 10^{-6}$  Max., B:  $\pm 0.28 \times 10^{-6}$  Max.)
- ⑥ Operating temperature (G: -40 °C to +85 °C) ⑦ OE function (H: Active High)
- ⑧ V<sub>c</sub> function (Refer to symbol table) ⑨ Internal identification code ("A" is default)

⑧V <sub>c</sub> function (symbol table)				
V <sub>c</sub> [V]	Non	1.5	1.65	Any
Non Filter	N	D	E	A
Filter ON	G	J	K	F

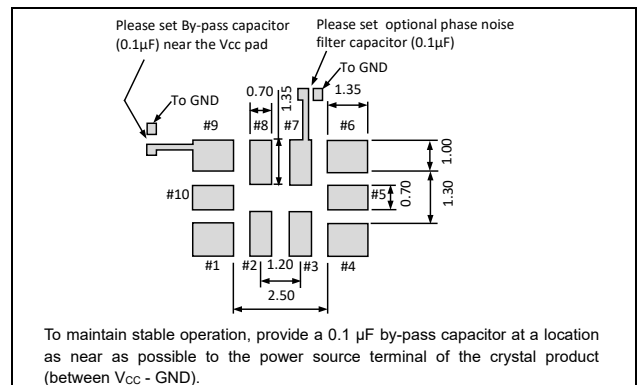
External dimensions

(Unit: mm)







Footprint (Recommended)

(Unit: mm)



► Explanation of the mark that are using it for the catalog

	<p>► Pb free.</p>
	<p>► 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.)</p>
	<p>► Designed for automotive general equipment.</p>
	<p>► Designed for automotive applications related to driving and safety.</p>

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