TCXO / VC-TCXO
HIGH STABILITY

Pb Free   RoHS Compliant

Product Number
TG5032CFN :X1G005391xxxxxx
TG5032SFN :X1G005401xxxxxx

TG5032CFN / SFN

- Frequency range : 10 MHz to 40 MHz
- Supply voltage : 3.3 V Typ.
- Frequency / temperature characteristics
  : ±0.1 × 10^{-6} Max. (-40 ºC to +85 ºC)
- Frequency aging : ±3.0 × 10^{-6} Max. / 20years
- External dimensions: 5.0 × 3.2 × 1.45 mm (4 pins)
- Applications : Small Cells, Stratum3, SyncE, IEEE1588
- Features : High stability, Wide temperature range

TG5032CFN (CMOS)   TG5032SFN (Clipped Sine)

Specifications (characteristics)

Item	Symbol	TG5032CFN (CMOS output)		TG5032SFN(Clipped sine wave)		Conditions / Remarks
		TCXO	VC-TCXO	TCXO	VC-TCXO	
Output frequency range	fo	10 MHz to 40 MHz				
		10, 12.8, 19.2, 20, 24.576, 25, 25.6, 26, 30.72, 38.4, 38.88, 40 MHz				Standard frequency
Supply voltage	V$_{CC}$	C: 3.3 V ± 5 % (Supply voltage range: 2.375 V to 3.63 V)				
Storage temperature range	T_stg	-40 ºC to +90 ºC				Storage as single product
Operating temperature range	T_use	G: -40 ºC to +85 ºC				Standard temp. range
a) Frequency tolerance	f_tol	±1.0 × 10^{-6} Max.				After reflow, +25 ºC
b) Frequency/temperature Characteristics	fo-Tc	A: ±0.1 × 10^{-6} Max. / -40 ºC to +85 ºC H: ±0.25 × 10^{-6} Max. / -40 ºC to +85 ºC B: ±0.28 × 10^{-6} Max. / -40 ºC to +85 ºC				Reference to (fmax + fmin) / 2
c) Frequency/load coefficient	fo-Load	±0.1 × 10^{-6} Max.				Load ± 10 %
d) Frequency/voltage coefficient	fo-V$_{CC}$	±0.1 × 10^{-6} Max.				V$_{CC}$ ± 5%
e) Frequency aging	f_age	±0.5 × 10^{-6} Max.				+25 °C, First year
		±3.0 × 10^{-6} Max.				+25 °C, 20 years
Holdover stability (Constant temperature)	-	±0.01 × 10^{-6} Max. (+25 °C , 24 hours)				After 10 days of continuous operation.
		±0.04 × 10^{-6} Max. (+25 °C , 24 hours)				After 48 hours of continuous operation.
Wander generation (MTIE, TDEV)	-	-				Compliant with GR-1244CORE , ITU-T G.8262
Free-run accuracy	-	±4.6 × 10^{-6} Max.				This includes Item a), b), c), d) and e)
Current consumption	I$_{CC}$	5.0 mA Max.		5.0 mA Max.		10 MHz ≤ fo ≤ 26 MHz
		6.0 mA Max.				26 MHz < fo ≤ 40 MHz
Input resistance	Rin	-	100 kΩ Min.	-	100 kΩ Min.	Vc- GND (DC)
Frequency control range	f_cont	-	±5 ×10^{-6} to ±10 ×10^{-6}	-	±5 ×10^{-6} to ±10 ×10^{-6}	D :Vc = 1.5 V ± 1.0 V at V$_{CC}$ = 3.3 V E :Vc = 1.65 V ± 1.0 V at V$_{CC}$ = 3.3 V
Frequency change polarity	-	-	Positive polarity	-	Positive polarity	
Symmetry	SYM	45 % to 55 %		-		50 % V$_{CC}$ level, L_CMOS ≤ 15 pF
Output voltage	V$_{OH}$	90 % V$_{CC}$ Min.		-		
	V$_{OL}$	10 % V$_{CC}$ Max.		-		
Output level	Vpp	-		0.8 V Min.		Peak to Peak
Rise time / Fall time	tr/tf	8.0 ns Max.		-		10 % V$_{CC}$ to 90 % V$_{CC}$ level, Load: 15 pF
Start-up time	t_str	5.0 ms Max.				t = 0 at 90% V$_{CC}$
Output load condition	Load	15 pF		10 kΩ // 10 pF		

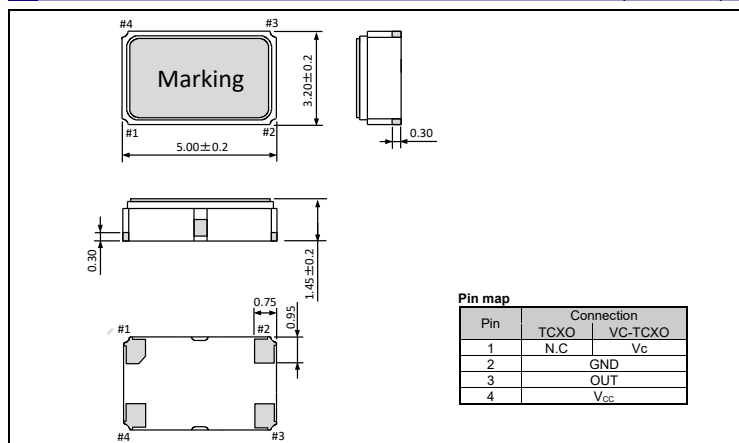* Note : Please contact us for requirements not listed in this specification.

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

①Model ②Output (C: CMOS, S: Clipped sine wave) ③Frequency ④Supply voltage (C: 3.3 V Typ.)
⑤Frequency / temperature characteristics (A: ±0.1 × 10^{-6} Max., H: ±0.25 × 10^{-6} Max., B: ±0.28 × 10^{-6} Max.)
⑥Operating temperature (G: -40 °C to +85 °C) ⑦OE function (N: Non)
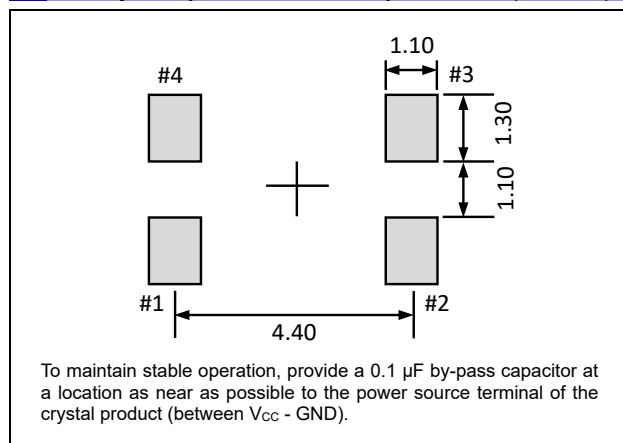⑧Vc function (D: Vc =1.5 V, E: Vc =1.65 V, N: Non) ⑨Internal identification code ("A" is default)

External dimensions (Unit : mm)

Marking

3.20±0.2
5.00±0.2
0.30
0.30
0.75
0.95
1.45±0.2

Pin	Connection	
	TCXO	VC-TCXO
1	N.C	Vc
2	GND	
3	OUT	
4	V$_{CC}$	

Footprint (Recommended) (Unit: mm)

#4 #3 #1 #2
1.10
1.30
1.10
4.40

To maintain stable operation, provide a 0.1 µF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product (between V$_{CC}$ - GND).

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

Pb Free	►Pb free.
RoHS Compliant	►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.)
For Automotive	►Designed for automotive general equipment.
Automotive Safety	►Designed for automotive applications related to driving and safety.