

TCXO/VC-TCXO  
ULTRA HIGH STABILITY

TG-5500CA / TG-5501CA

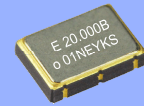
- Frequency range : 10 MHz to 50 MHz
- Supply voltage : 3.3 V Typ. / 5.0V Typ.
- Frequency / temperature characteristics :  $\pm 0.28 \times 10^{-6}$  Max. (for Stratum3)
- Frequency aging :  $\pm 3.0 \times 10^{-6}$  Max./20years (for Stratum3)
- External dimensions: 7.0 × 5.0 × 1.5 mm (10 pads or 4pads)
- Applications : Network synchronization, Stratum3, SyncE, IEEE1588, Microwave BTS
- Features : Ultra high stability



Product Number (Please contact us)  
 TG-5500CA :X1G003561xxxxxx  
 TG-5501CA :X1G003901xxxxxx



TG-5500CA (10 pads)



TG-5501CA (4 pads)

Actual size

TG-5500CA

TG-5501CA

Specifications (characteristics)

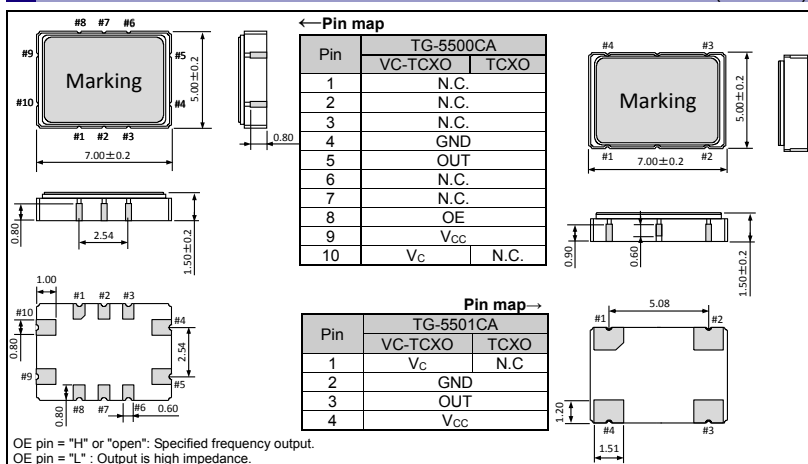
Item	Symbol	CMOS		Clipped sine wave		Conditions / Remarks
		VC-TCXO	TCXO	VC-TCXO	TCXO	
Output frequency range	f <sub>o</sub>	10 MHz to 50 MHz 10, 12.8, 15.36, 16.384, 19.44, 20, 24, 24.576, 25, 26, 27, 30.72, 40, 49.152, 50 MHz				Standard frequency
Supply voltage	V <sub>CC</sub>	3.3 V ± 5%, 5.0 V ± 5% (Supply voltage range :2.7 V to 5.5 V)				
Storage temperature	T <sub>stg</sub>	-40 °C to +90 °C				Storage as single product.
Operating temperature	T <sub>use</sub>	-40 °C to +85 °C				
a) Frequency tolerance	f <sub>tol</sub>	±1.0 × 10 <sup>-6</sup> Max.				After reflow, +25 °C
b) Frequency/temperature characteristics	f <sub>o</sub> -T <sub>c</sub>	±0.28 × 10 <sup>-6</sup> Max.(12.8 MHz ≤ f <sub>o</sub> ≤ 50 MHz) ±0.25 × 10 <sup>-6</sup> Max.(12.8 MHz ≤ f <sub>o</sub> ≤ 50 MHz): Option ±1.0 × 10 <sup>-6</sup> Max.(10 MHz ≤ f <sub>o</sub> < 12.8 MHz)				-40 °C to +85 °C
c) Frequency/load coefficient	f <sub>o</sub> -Load	±0.1 × 10 <sup>-6</sup> Max.				Load ±10 %
d) Frequency/voltage coefficient	f <sub>o</sub> -V <sub>CC</sub>	±0.1 × 10 <sup>-6</sup> Max. ±0.5 × 10 <sup>-6</sup> Max.				V <sub>CC</sub> ±5% +25 °C, First year
e) Frequency aging	f <sub>age</sub>	±3.0 × 10 <sup>-6</sup> Max. (for Stratum3)				+25 °C, 20 years
Holdover stability (Constant temperature)	-	±0.01 × 10 <sup>-6</sup> Max.( +25 °C, 24 hours)				After 10 days of continuous operation.
Wander generation (MTIE, TDEV)	-	±0.04 × 10 <sup>-6</sup> Max.( +25 °C, 24 hours)				After 48 hours of continuous operation.
Free-run accuracy	-	±4.6 × 10 <sup>-6</sup> Max. (12.8 MHz ≤ f <sub>o</sub> ≤ 50 MHz)				Compliant with GR-1244CORE, ITU-T G.8262
Current consumption	I <sub>CC</sub>	5.0 mA Max. / 6.0 mA Max. 6.0 mA Max. / 8.0 mA Max. 8.0 mA Max. / 10.0 mA Max.	5.0 mA Max.		This includes Item a),b),c),d)and e) 10 MHz ≤ f <sub>o</sub> ≤ 26 MHz (3.3V / 5.0V) 26 MHz < f <sub>o</sub> ≤ 40 MHz (3.3V / 5.0V) 40 MHz < f <sub>o</sub> ≤ 50 MHz (3.3V / 5.0V)	
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>	±5.0 × 10 <sup>-6</sup> to ±12.0 × 10 <sup>-6</sup>	—	±5.0 × 10 <sup>-6</sup> to ±12.0 × 10 <sup>-6</sup>	—	V <sub>c</sub> =1.65 V ± 1.65 V at V <sub>CC</sub> =3.3V V <sub>c</sub> =2.5 V ± 2.0 V at V <sub>CC</sub> =5.0V
Frequency change polarity	—	Positive polarity	—	Positive polarity	—	
Symmetry	SYM	45 % to 55 %	—		GND level (DC cut)	
Output voltage	V <sub>OH</sub>	90 % V <sub>CC</sub> Min.	—			
	V <sub>OL</sub>	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>	2.0 sec. Max.				T=0 at 90% V <sub>CC</sub>
Output load condition	Load	15 pF		10 kΩ/10 pF		
Input voltage	V <sub>IH</sub>	70% V <sub>CC</sub> Min.				OE terminal(Enable voltage)
	V <sub>IL</sub>	30% V <sub>CC</sub> Max.				OE terminal(Disable voltage)

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

Product Name TG-5500 CA 30.720000MHz \*\*\*  
 (Standard form) ① ② ③ ④  
 ①Model ②Package type ③Frequency ④Spec segment (Please contact us)

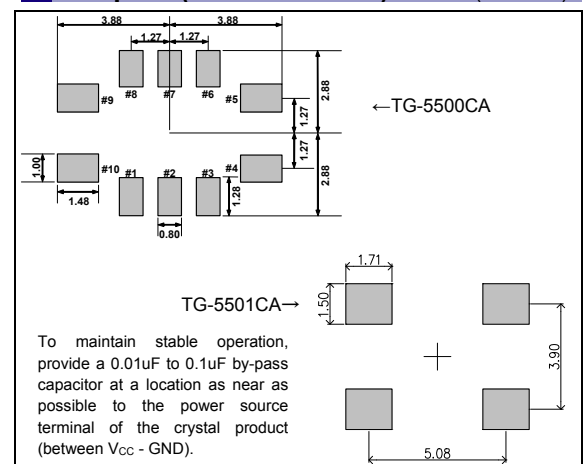
External dimensions

(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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	► 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.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc ).

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