

TCXO/VC-TCXO
ULTRA HIGH STABILITY

Product Number
TG-5500CA :X1G003561xxxxxx
TG-5501CA :X1G003901xxxxxx

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



TG-5500CA
(10 pads)



TG-5501CA
(4 pads)

Specifications (characteristics)

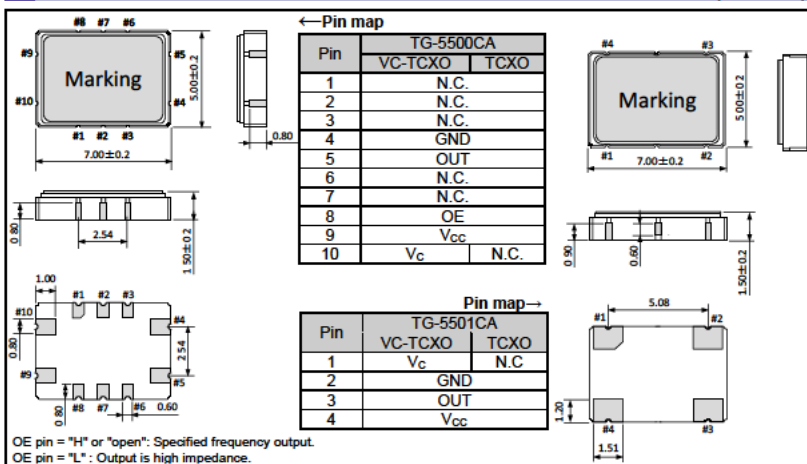
Item	Symbol	CMOS		Clipped sine wave		Conditions / Remarks
		VC-TCXO	TCXO	VC-TCXO	TCXO	
Output frequency range	f _o	10 MHz to 50 MHz 10, 12.8, 15.36, 16.384, 19.44, 20, 24, 24.576, 25, 26, 27, 30.72, 40, 49.152, 50 MHz				Standard frequency
Supply voltage	V _{cc}	3.3 V ± 5%, 5.0 V ± 5% (Supply voltage range : 2.7 V to 5.5 V)				
Storage temperature	T _{stg}	-40 C to +90 C				Storage as single product.
Operating temperature	T _{use}	-40 C to +85 C				
a) Frequency tolerance	f _{tol}	±1.0 × 10 ⁻⁶ Max.				After reflow, +25 C
b) Frequency/temperature characteristics	f _o -T _c	±0.28 × 10 ⁻⁶ Max. (12.8 MHz ≤ f _o ≤ 50 MHz) ±0.25 × 10 ⁻⁶ Max. (12.8 MHz ≤ f _o ≤ 50 MHz): Option ±1.0 × 10 ⁻⁶ Max. (10 MHz ≤ f _o < 12.8 MHz)				-40 C to +85 C
c) Frequency/load coefficient	f _o -Load	±0.1 × 10 ⁻⁶ Max.				Load ±10 %
d) Frequency/voltage coefficient	f _o -V _{cc}	±0.1 × 10 ⁻⁶ Max. ±0.5 × 10 ⁻⁶ Max.				V _{cc} ±5% +25 °C, First year
e) Frequency aging	f _{age}	±3.0 × 10 ⁻⁶ Max. (for Stratum3)				+25 °C, 20 years
Holdover stability (Constant temperature)	-	±0.01 × 10 ⁻⁶ Max. (+25 °C, 24 hours)				After 10 days of continuous operation.
Wander generation (MTIE, TDEV)	-	±0.04 × 10 ⁻⁶ Max. (+25 °C, 24 hours)				After 48 hours of continuous operation.
Free-run accuracy	-	±4.6 × 10 ⁻⁶ Max. (12.8 MHz ≤ f _o ≤ 50 MHz)				Compliant with GR-1244CORE, ITU-T G.8262
Current consumption	I _{cc}	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 _o ≤ 26 MHz (3.3V / 5.0V) 26 MHz < f _o ≤ 40 MHz (3.3V / 5.0V) 40 MHz < f _o ≤ 50 MHz (3.3V / 5.0V)
Input resistance	R _{in}	100 kΩ Min.	—	100 kΩ Min.	—	V _c - GND (DC)
Frequency control range	f _{cont}	±5.0 × 10 ⁻⁶ to ±12.0 × 10 ⁻⁶	—	±5.0 × 10 ⁻⁶ to ±12.0 × 10 ⁻⁶	—	V _c =1.65 V ± 1.65 V at V _{cc} =3.3V V _c =2.5 V ± 2.0 V at V _{cc} =5.0V
Frequency change polarity	—	Positive polarity	—	Positive polarity	—	
Symmetry	SYM	45 % to 55 %	—	—	—	GND level (DC cut)
Output voltage	V _{OH}	90 % V _{cc} Min.	—	—	—	
	V _{OL}	10 % V _{cc} Max.	—	—	—	
Output level	V _{PP}	—	—	0.8 V Min.	—	Peak to Peak
Rise time / Fall time	tr/ff	8.0 ns Max.	—	—	—	10% V _{cc} to 90 % V _{cc} level, Load: 15 pF
Start-up time	t _{str}	2.0 sec. Max.				T=0 at 90% V _{cc}
Output load condition	Load	15 pF	—	10 kΩ/10 pF	—	
Input voltage	V _{IH}	70% V _{cc} Min.				OE terminal(Enable voltage)
	V _{IL}	30% V _{cc} Max.				OE terminal(Disable voltage)

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

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

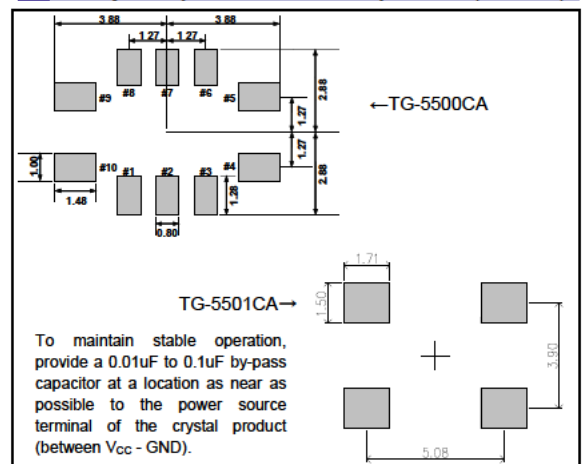
External dimensions

(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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	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
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