

TCXO HIGH STABILITY 105 °C HIGH TEMPERATURE





Product Number

TG-5510CA: X1G006001xxxx99 TG-5511CA: X1G006011xxxx99

TG-5510CA / TG-5511CA

: 10 MHz to 54 MHz Frequency range 3.3 V Typ. Supply voltage •Frequency / temperature characteristics

: $\pm 0.28 \times 10^{-6}$ Max. (-40 °C to +85 °C, 105 °C option)

 $\pm 4.6 \times 10^{-6}$ Max. / 20 years (for Stratum3) •Free-run accuracy $7.0 \times 5.0 \times 1.5 \text{ mm} (10 \text{ pins or 4 pins})$ External dimensions: Applications Network synchronization, Stratum3, BTS, SyncE, IEEE1588, Microwave, BTS Features

(10 pins) 105 °C High temp, High stability





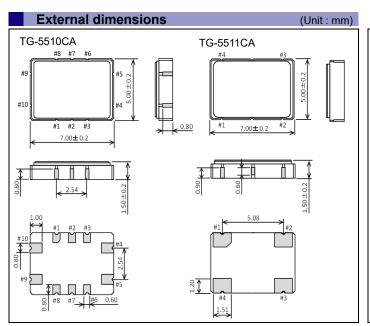
Specifications (characteristics)

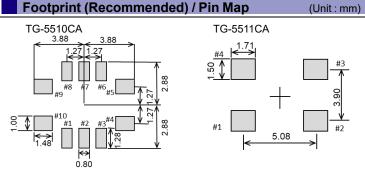
Item	Symbol	CMOS	Clipped sine wave	Condition	
Output frequency range	fo	10 MHz to 54 MHz		Please contact us about available frequencies.	
Supply voltage	V _{cc}	3.3 V ± 5 %		· ·	
Storage temperature range	T stg	-40 °C to +105 °C		Storage as single product.	
Operating temperature range	T use		to +85 °C	Standard	
a) Frequency tolerance	f tol	(-40 °C to +105 °C) ±1.0 × 10 ° Max.		(Option) After reflow, +25 °C	
b) Frequency/temperature characteristics	fo-Tc	±0.28 × 10 ⁻⁶ Max. (±0.25 × 10 ⁻⁶ Max.)		Standard (Option)	
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		±0.01 × 10 ⁻⁶ Max	(. (+25 °C, 24 hours)	After 10 days of continuous operation	
(Constant temperature)	-	±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. / 20 years		This includes Item a), b), c), d) and e)	
Current consumption	I _{cc}	7.0 mA Max.	6.0 mA Max.	10 MHz ≤ fo ≤ 26 MHz	
		9.0 mA Max.		26 MHz < fo ≤ 40 MHz	
		10.0 mA Max.		40 MHz < fo ≤ 54 MHz	
Symmetry	SYM	45 % to 55 %	-	GND level (DC cut)	
Output voltage	V _{OH}	90 % V _{CC} Min.	-		
	V _{OL}	10 % V _{CC} Max.	-		
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 ms. Max.		t = 0 at 90 % V _{CC}	
Output level	Vpp	-	0.8 V Min.	Peak to Peak	
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.

TG-5510CA-*** 30.720000MHz **Product Name** <u>2</u> 3 (Standard form)

①Model ②Package type ③Spec segment (Please contact us) ④Frequency





To maintain stable operation, provide a 0.01 μF to 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).

Pin	Connection	
1, 2, 3, 6, 7, 10	N.C.	
4	GND	
5	OUT	
8	OE	
٥	Vac	

OE pin = "H" or "open": Specified frequency output. OE pin = "L": Output is high impedance.

Pin	Connection
1	N.C
2	GND
3	OUT
4	V_{CC}

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.

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.

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IATF 16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

Explanation of the mark that are using it for the catalog



►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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