TCXO/VC-TCXO
HIGH STABILITY

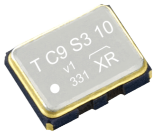
Pb Free RoHS Compliant

Product Number
TG-5006CJ : X1G004131xxxx00
TG-5006CG : X1G004211xxxx00
TG-5006CE : X1G004201xxxx00

TG-5006CJ / CG / CE


TG-5006CJ
(2.0 × 1.6 × 0.73 mm)


TG-5006CG
(2.5 × 2.0 × 0.8 mm)


TG-5006CE
(3.2 × 2.5 × 0.9 mm)

- •Frequency range : 13 to 52MH(TG-5006CJ/CG)
  13 to 20MHz, 26 to 40MHz(TG-5006CE)
- •Supply voltage : 1.8 V Typ./ 2.8 V Typ./ 3.0 V Typ./ 3.3 V Typ.
- •Frequency / temperature characteristics
  : ±0.5× 10^{-6} Max or ±2.0 × 10^{-6} Max.
- •Applications : GPS, RF,
  Wireless communication devices
  (CDMA, WCDMA, LTE, WiMAX, other)
- •Features : High stability

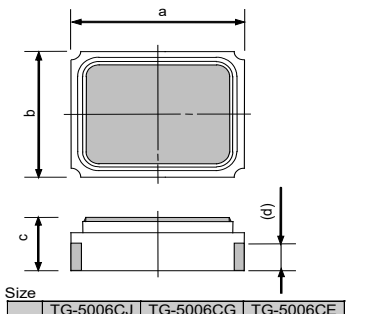
Specifications (characteristics)

Item	Symbol	VC-TCXO	TCXO	Conditions / Remarks
Output frequency range	f0	16.367667 MHz, 16.368 MHz, 16.369 MHz, 19.2 MHz, 26 MHz and 38.4 MHz		Standard frequency
		13.000 MHz to 52.000 MHz		TG-5006CJ/TG5006CG
		13.000 MHz to 20.000 MHz,26.000 MHz to 40.000 MHz		TG-5006CE
Supply voltage	Vcc	1.8 V ±0.1 V / 2.8 V ±5% / 3.0 V ±5% / 3.3 V ±5%		Supply voltage range : 1.7 V to 3.465 V
Storage temperature range	T_stg	-40 °C to +90 °C		Storage as single product.
Operating temperature range	T_use	-30 °C to +85 °C		
Frequency tolerance	f_tol	±2.0 ×10^{-6} Max.		After reflow, +25 °C
Frequency/temperature characteristics	f0-Tc	±0.5 × 10^{-6} Max. / -30 °C to +85 °C		High stability version for GPS
		±2.0 × 10^{-6} Max. / -30 °C to +85 °C		Standard stability version
Frequency/load coefficient	f0-Load	±0.2 × 10^{-6} Max.		10 kΩ // 10 pF ±10 %
Frequency/voltage coefficient	f0-Vcc	±0.2 ×10^{-6} Max.		Vcc ±5%
Frequency aging	f_age	±1.0 ×10^{-6} Max.		+25 °C , First year,13 MHz≦f0≦40 MHz
		±1.5 ×10^{-6} Max.		+25 °C , First year,40 MHz＜f0≦52 MHz
Current consumption	Icc	1.5 mA Max.		13 MHz≦f0≦26 MHz
		2.0 mA Max.		26 MHz＜f0≦52 MHz
Input impedance	Zin	500 kΩ Min.	—	Vc- GND (DC)
Frequency control range	f_cont	±8.0 × 10^{-6} to ±15.0 × 10^{-6}	—	Vc =0.9 V ±0.6 V (Vcc =1.8 V) or Vc =1.4 V ±1.0 V (Vcc =2.8 V) or Vc =1.5 V ±1.0 V (Vcc =3.0 V) or Vc =1.65 V ±1.0 V (Vcc =3.3 V)
Frequency change polarity	f_cp	Positive polarity	—	
Symmetry	SYM	40 % to 60 %		GND level (DC cut)
Output voltage	Vpp	0.8 V Min.		Peak to Peak
Start-up time	t_str	2.0 ms Max.		T=0 at 90% Vcc
Output load	Load_R	10 kΩ		DC cut capacitor = 0.01 µF
	Load_C	10 pF		

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

Product Name (Standard form): TG-5006 CJ-*** 19.200000MHz
① ② ③ ④
①Model ②Package type ③Spec segment (Please contact us) ④Frequency

External dimensions (Unit: mm)



Size

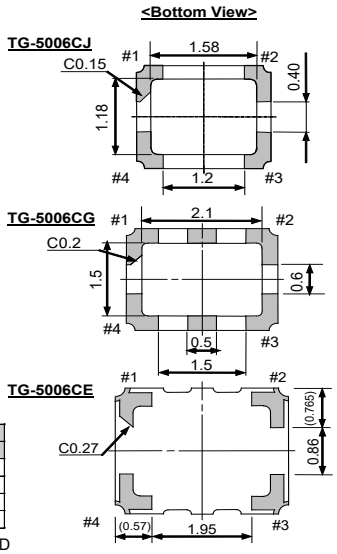
	TG-5006CJ	TG-5006CG	TG-5006CE
a	2.0±0.15	2.5±0.2	3.2±0.2
b	1.6±0.15	2.0±0.2	2.5±0.2
c	0.73±0.07	0.8±0.1	0.9±0.1
(d)	0.27	0.38	0.46

Pin map

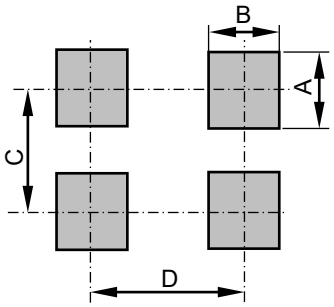
Pin	Connection	
	VC-TCXO	TCXO
1	Vc	N.C.*1
2	GND	
3	OUT	
4	Vcc	

*1) Please keep "N.C." pin OPEN condition or GND connection. "N.C." pin doesn't work as a ground pin.

<Bottom View>



Footprint (Recommended) (Unit: mm)



Size

	TG-5006CJ (2.0×1.6mm)	TG-5006CG (2.5×2.0mm)	TG-5006CE (3.2×2.5mm)
A	0.75	1.0	1.15
B	0.6	0.8	0.85
C	1.13	1.4	1.6
D	1.65	2.1	2.6

For stable operation, please add a bypass capacitor (0.01uF to 0.1uF) between Vcc and GND. Please place it as close to TCXO as possible.

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.

WORKING FOR HIGH QUALITY

In order provide high quality and reliable products and services than meet customer needs, Seiko Epson made early efforts towards obtaining ISO9000 series certification and has acquired ISO9001 for all business establishments in Japan and abroad. We have also acquired IATF 16949 certification that is requested strongly by major automotive manufacturers as standard.

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).