CRYSTAL OSCILLATOR (SPXO)

OUTPUT : CMOS

SG5032CAN / CBN / CCN
SG7050CAN / CBN / CCN

- Frequency range : CAN 1 to 75 MHz (Fundamental mode)
  : CBN 80 to 170 MHz (Fundamental mode)
  : CCN 2.5 to 50 MHz (Fundamental mode)
- Supply voltage : CAN / CBN 1.8 V to 3.6 V Typ.
  : CCN 5.0 V Typ.
- Function : CAN / CBN Standby($\overline{ST}$)
  : CCN Output enable(OE)
- Output : CMOS

Pb Free
RoHS Compliant

Product Number (please contact us)
SG5032CAN: X1G004451xxxx00
SG5032CBN: X1G004461xxxx00
SG5032CCN: X1G004471xxxx00
SG7050CAN: X1G004481xxxx00
SG7050CBN: X1G004491xxxx00
SG7050CCN: X1G004501xxxx00

SG5032CAN/CBN/CCN
(5.0 × 3.2 × 1.1 mm)

SG7050CAN/CBN/CCN
(7.0 × 5.0 × 1.3 mm)

Actual size

SG5032CAN /CBN/CCN	SG7050CAN /CBN/CCN
	

Specifications (characteristics)

Item	Symbol	Specifications			Conditions / Remarks
		SG5032CAN SG7050CAN	SG5032CBN SG7050CBN	SG5032CCN SG7050CCN	
Output frequency range	f_0	1 MHz to 75 MHz	80 MHz to 170 MHz	2.5 MHz to 50 MHz	Please contact us about available frequencies.
Supply voltage	V_{CC}	T: 1.6 V to 3.63 V		H: 4.5 V to 5.5 V	
Storage temperature	T_stg	-40 °C to +125 °C			Storage as single product.
Operating temperature	T_use	B: -20 °C to +70 °C, G: -40 °C to +85 °C			
		H: -40 °C to +105 °C	-		
Frequency tolerance	f_tol	D (Only CAN type) : ±25 × 10^{-6}, J : ±50 × 10^{-6}			-20 °C to +70 °C
		J : ±50 × 10^{-6}			-40 °C to +85 °C
		J : ±50 × 10^{-6}	-	-	-40 °C to +105 °C
		L : ±100 × 10^{-6}			
Current consumption	I_{CC}	3.0 mA Max.	11 mA Max.	20 mA Max.	No load condition Maximum frequency.
Stand-by current	I_std	2.7 μA Max.	10 μA Max.	-	$\overline{ST}$ =GND
Disable current	I_dis	-	-	10 mA Max.	OE=GND
Symmetry	SYM	45 % to 55 %		40 % to 60 %	50 % V_{CC} level, L_CMOS ≤ 15 pF
Output voltage	V_{OH}	V_{CC}-0.4 Min.			
	V_{OL}	0.4 V Max.			
Output load condition	L_CMOS	15 pF Max.		50 pF Max.	CMOS load
Input voltage	V_{IH}	80 % V_{CC} Min.			$\overline{ST}$,OE terminal
	V_{IL}	20 % V_{CC} Max.			
Rise time / Fall time	tr/ tf	4 ns Max.	3 ns Max.	5 ns Max.	20 % V_{CC} to 80 % V_{CC} level, L_CMOS =15 pF
Start-up time	t_str	3 ms Max.	5 ms Max.		t=0 at 90 % V_{CC} +85°C,(+105°C)
Frequency aging	f_aging	±3 × 10^{-6} / year Max.	±5 × 10^{-6} / year Max.		+25 °C, First year.

※1 : Maximum T_use of operating range for SGxxxxCAN

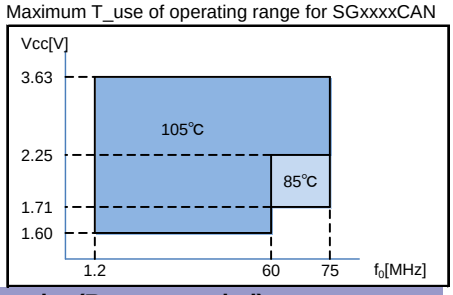
Product Nam (Standard form): SG5032 C AN 25.000000MHz T J G A (⑤⑥: Available code DB,JB,JG,JH,LG,LH)
① ② ③ ④⑤⑥⑦

①Model ②Output (C:CMOS) ③Frequency
④Supply voltage ⑤Frequency tolerance
⑥Operating temperature range ⑦Internal identification code (“A” is default)

④Supply voltage	
T	1.6 to 3.6 V
H	4.5 to 5.5 V

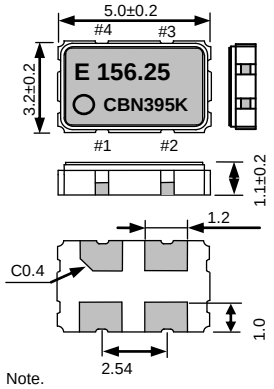
⑤Frequency tolerance	
D	±25 × 10^{-6}
J	±50 × 10^{-6}
L	±100 × 10^{-6}

⑥Operating temperature range	
B	-20 to +70°C
G	-40 to +85°C
H	-40 to +105°C

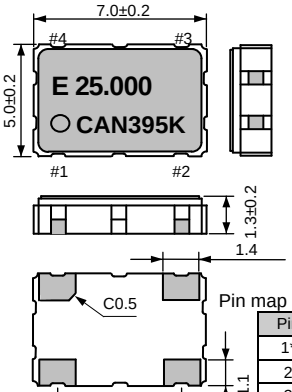


External dimensions (Unit:mm)

●SG5032 type



●SG7050 type



Pin map

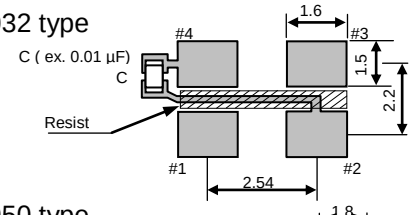
Pin	Connection
1*	OE or $\overline{ST}$
2	GND
3	OUT
4	V_{CC}

*OE function is only available SGxxxxCCN

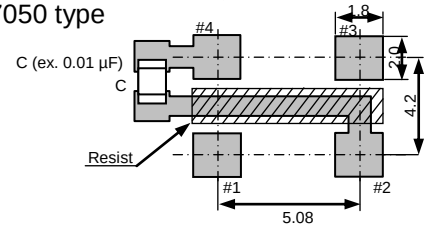
Note.
OE pin = "H" or "open" : Specified frequency output.
OE pin = "L" : Output is high impedance.
$\overline{ST}$ pin = "H" or "open" : Specified frequency output.
$\overline{ST}$ pin = "L" : Output is high impedance、oscillation stops.

Footprint (Recommended) (Unit:mm)

●SG5032 type



●SG7050 type



To maintain stable operation, provide a 0.01uF to 0.1uF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product (between Vcc - GND).

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 ISO/TS 16949 certification that is requested strongly by major automotive manufacturers as standard.

ISO/TS16949 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	►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 applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
Automotive Safety	►Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

Notice

- This material is subject to change without notice.
- Any part of this material may not be reproduced or duplicated in any form or any means without the written permission of Seiko Epson.
- The information about applied data, circuitry, software, usage, etc. written in this material is intended for reference only. Seiko Epson does not assume any liability for the occurrence of customer damage or infringing on any patent or copyright of a third party. This material does not authorize the licensing for any patent or intellectual copyrights.
- When exporting the products or technology described in this material, you should comply with the applicable export control laws and regulations and follow the procedures required by such laws and regulations.
- You are requested not to use the products (and any technical information furnished, if any) for the development and/or manufacture of weapon of mass destruction or for other military purposes. You are also requested that you would not make the products available to any third party who may use the products for such prohibited purposes.
- These products are intended for general use in electronic equipment. When using them in specific applications that require extremely high reliability, such as the applications stated below, you must obtain permission from Seiko Epson in advance.
  / Space equipment (artificial satellites, rockets, etc.) / Transportation vehicles and related (automobiles, aircraft, trains, vessels, etc.) / Medical instruments to sustain life / Submarine transmitters / Power stations and related / Fire work equipment and security equipment / traffic control equipment / and others requiring equivalent reliability.
- All brands or product names mentioned herein are trademarks and/or registered trademarks of their respective.