### 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. : CAN / CBN Standby(ST) Function Output enable(OE) : CCN

CMOS Output





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



SG5032CAN/CBN/CCN  $(5.0 \times 3.2 \times 1.1 \text{ mm})$ 

Actual size

SG5032CAN /CBN/CCN SG7050CAN /CBN/CCN



SG7050CAN/CBN/CCN  $(7.0 \times 5.0 \times 1.3 \text{ mm})$ 

### **Specifications (characteristics)**

		Specifications			
Item	Symbol	SG5032CAN SG7050CAN	SG5032CBN SG7050CBN	SG5032CCN SG7050CCN	Conditions / Remarks
Output frequency range	fo	1 MHz to 75 MHz	80 MHz to 170 MHz	2.5 MHz to 50 MHz	Please contact us about available frequencies.
Supply voltage	Vcc	T: 1.6 V to 3.63 V T: 1.71 V to 3.63 V K: 2.25 V to 3.63 V	T: 1.6 V to 3.63 V	H: 4.5 V to 5.5 V	1 MHz≤fo≤60 MHz 60 MHz <fo≤75 +85="" max.<br="" mhz,="" °c="">60 MHz<fo≤75 +105="" max.<br="" mhz,="" °c="">(CAN)</fo≤75></fo≤75>
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		See of figure *1 (CAN)	
	f_tol	D (Only CAN type): $\pm 25 \times 10^{-6}$ , J: $\pm 50 \times 10^{-6}$		-20 °C to +70 °C	
Face and a second secon		J: ±50 × 10 <sup>-6</sup>			-40 °C to +85 °C
Frequency tolerance		J: ±50 × 10 <sup>-6</sup> L: ±100 × 10 <sup>-6</sup>	-	-	-40 °C to +105 °C
Current consumption	Icc	3.0 mA Max.	11 mA Max.	20 mA Max.	No load condition Maximum frequency.
Stand-by current	l_std	2.7 μA Max.	10 μA Max.	-	ST =GND
Disable current	I_dis	-	-	10 mA Max.	OE=GND
Symmetry	SYM	45 % to	o 55 %	40 % to 60 %	50 % Vcc level, L_CMOS ≤ 15 pF
Output voltage	Vон	Vcc-0.4 Min.			
	Vol	0.4 V Max.			
Output load condition	L_CMOS	15 pF Max. 50 pF Max.		CMOS load	
Input voltage	VIH VIL	80 % Vcc Min. 20 % Vcc Max.		ST, OE terminal	
Rise time / Fall time	tr/ tf	3 ns Max. 3.5nsMax.(@1.8V±10%)	3 ns Max.	5 ns Max.	20 % VCC to 80 % VCC level, L_CMOS =15 pF
Start-up time	t_str	3 ms Max. 5 ms Max.		t=0 at 90 % Vcc +85°C,(+105°C)	
Frequency aging	f_aging	$\pm 3 \times 10^{-6}$ / year Max. $\pm 5 \times 10^{-6}$ / year Max.		+25 °C, First year.	

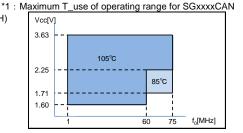
Product Nam (Standard form) SG5032 C AN 25.000000MHz T J G A (56: Available code DB,JB,JG,JH,LG,LH) 4567

②Output (C:CMOS) ③Frequency

	- '	•				
<b>4</b> S	Supply voltage					
т	1.6 to 3.63 V					
'	1.71 ~ 3.63 V	See *1				
K	2.25 ~ 3.63 V	(CAN)				
	45 551					

⑤Frequency tolerance		
D	±25 × 10 <sup>-6</sup>	
J	±50 × 10 <sup>-6</sup>	
L	±100 × 10 <sup>-6</sup>	

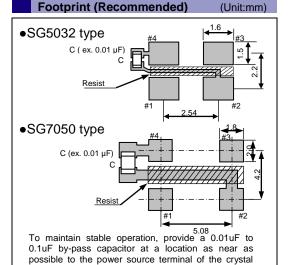
Operating temperature range			
В	-20 to +70°C		
G	-40 to +85°C		
Н	-40 to +105°C		



#### External dimensions

(Unit:mm)

#### SG5032 type ●SG7050 type 7 0+0 2 E 156.25 E 25.000 CBN395K ○ CAN395K C0.4 C0.5 Pin map Connection Pin OE or ST GND OE pin = "H" or "open" : Specified frequency output. OUT OE pin = "L" : Output is high impedance. ST pin = "H" or "open" : Specified frequency output Vcc \*OE function is only available SGxxxxCCN pin = "L" : Output is high impedance, oscillation stops



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**

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ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

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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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