

**CRYSTAL OSCILLATOR (SPXO) NEW**

OUTPUT : CMOS

**SG5032CAN / CBN / CCN  
SG7050CAN / CBN / CCN**

- Frequency range : 1 MHz to 170 MHz (Fundamental mode)
- Supply voltage : 1.8 V to 5.0 V
- Function : Standby ( $\overline{ST}$ ) ...SGxxxCAN / CBN  
: Output enable(OE) ...SGxxxCCN
- Output : CMOS



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 <sub>o</sub>	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 <sub>cc</sub>	T: 1.6 V to 3.6 V		H: 4.5 V to 5.5 V	
Storage temperature	T <sub>stg</sub>	-40 °C to +125 °C			Storage as single product.
Operating temperature	T <sub>use</sub>	G: -40 °C to +85 °C			
		H: -40 °C to +105 °C			
Frequency tolerance	f <sub>tol</sub>	J: ±50 × 10 <sup>-6</sup>			-40 °C to +85 °C
		L: ±100 × 10 <sup>-6</sup>	-	-	-40 °C to +105 °C
Current consumption	I <sub>cc</sub>	3.0 mA Max.	11 mA Max.	20 mA Max.	No load condition Maximum frequency.
Stand-by current	I <sub>std</sub>	2.7 μA Max.	10 μA Max.	-	$\overline{ST}$ =GND
Disable current	I <sub>dis</sub>	-	-	10 mA Max.	OE=GND
Symmetry	SYM	45 % to 55 %		40 % to 60 %	50 % V <sub>cc</sub> level, L <sub>CMOS</sub> ≤ 15 pF
Output voltage	V <sub>OH</sub>	V <sub>cc</sub> -0.4 Min.			
	V <sub>OL</sub>	0.4 V Max.			
Output load condition (CMOS)	L <sub>CMOS</sub>	15 pF Max.		50 pF Max.	
Input voltage	V <sub>IH</sub>	80 % V <sub>cc</sub> Min.			$\overline{ST}$ , OE terminal
	V <sub>IL</sub>	20 % V <sub>cc</sub> Max.			
Rise time / Fall time	t <sub>r</sub> / t <sub>f</sub>	4 ns Max.	3 ns Max.	5 ns Max.	20 % V <sub>cc</sub> to 80 % V <sub>cc</sub> level, L <sub>CMOS</sub> = 15 pF
Start-up time	t <sub>str</sub>	3 ms Max.	5 ms Max.		t=0 at 90 % V <sub>cc</sub> +85°C, (+105°C)
Frequency aging	f <sub>aging</sub>	±3 × 10 <sup>-6</sup> / year Max.	±5 × 10 <sup>-6</sup> / year Max.		+25 °C, First year.

Product Name **SG5032 C AN 25.000000MHz T J G A** (ⓄⓈ: JH is not available)

(Standard form)

① ② ③ ④ ⑤ ⑥ ⑦

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

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

ⓈFrequency tolerance	
J	±50 × 10 <sup>-6</sup>
L	±100 × 10 <sup>-6</sup>

ⓈOperating temperature range	
G	-40 to +85°C
H	-40 to +105°C

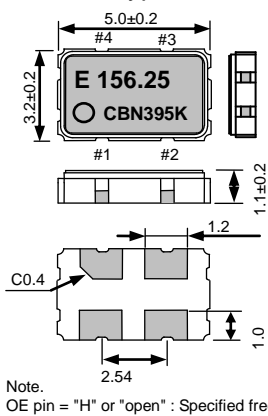
**External dimensions**

(Unit:mm)

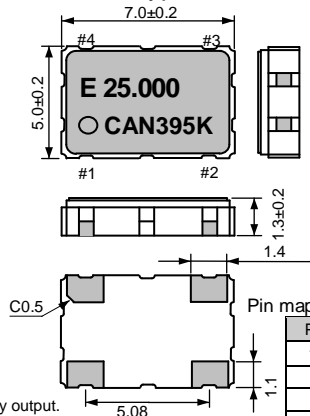
**Footprint (Recommended)**

(Unit:mm)

•SG5032 type



•SG7050 type

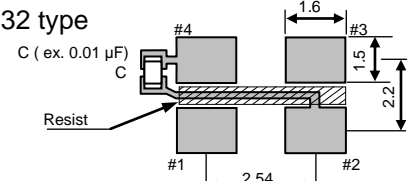


Pin map

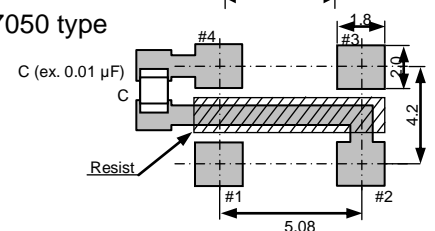
Pin	Connection
1*	OE or $\overline{ST}$
2	GND
3	OUT
4	V <sub>cc</sub>

\*OE function is only available SGxxxCCN

•SG5032 type



•SG7050 type



To maintain stable operation, provide a 0.01μF to 0.1μF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product (between V<sub>cc</sub> - GND).

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.