

## Crystal Oscillator (SPXO)

- Package size (3.2 mm × 2.5 mm × 1.05 mm)
- Fundamental mode SPXO
- Output: CMOS
- Reference weight Typ.25 mg

### [ 1 ] Product Number / Product Name / Marking

(1-1) Product Number / Ordering Code

**X1G0059610008xx**

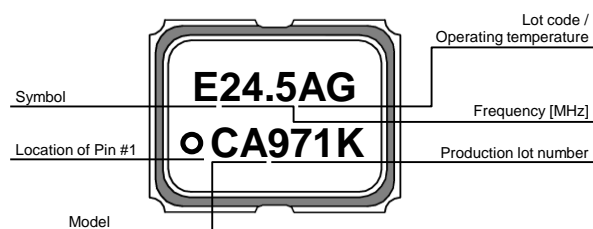
Last 2 digits code(xx) define Quantity.

The standard is "15", 2 000 pcs/Reel.

(1-2) Product Name / Model Name

**SG3225CAN 24.576000 MHz TJGA**

### (1-3) Marking



### [ 2 ] Absolute Maximum Ratings

Parameter	Symbol	Specifications			Unit	Conditions
		Min.	Typ.	Max.		
Maximum supply voltage	V <sub>CC</sub>	-0.3	-	+4.0	V	-
Input voltage	V <sub>IN</sub>	-0.3	-	V <sub>CC</sub> + 0.3	°C	ST terminal
Storage temperature range	T <sub>stg</sub>	-40	-	+125	°C	Storage as single product

### [ 3 ] Operating Range

Parameter	Symbol	Specifications			Unit	Conditions
		Min.	Typ.	Max.		
Supply voltage	V <sub>CC</sub>	1.60	-	3.63	V	-
	GND	0	-	0	V	-
Operating temperature range	T <sub>use</sub>	-40	-	+85	°C	-
CMOS load condition	L <sub>CMOS</sub>	-	-	15	pF	-

### [ 4 ] Frequency Characteristics

(Unless stated otherwise [ 3 ] Operating Range)

Parameter	Symbol	Specifications			Unit	Conditions
		Min.	Typ.	Max.		
Output frequency	f <sub>o</sub>	-	24.576000	-	MHz	-
Frequency tolerance *1	f <sub>tol</sub>	-50	-	+50	×10 <sup>-6</sup>	T <sub>use</sub>
Frequency aging	f <sub>age</sub>	-3	-	+3	×10 <sup>-6</sup>	+25 °C, First year

\*1 Frequency tolerance includes initial frequency tolerance, temperature variation, supply voltage change and load drift.

### [ 5 ] Electrical Characteristics

(Unless stated otherwise [ 3 ] Operating Range)

Parameter	Symbol	Specifications			Unit	Conditions
		Min.	Typ.	Max.		
Start-up time	t <sub>str</sub>	-	-	3.0	ms	t = 0 at 90 % V <sub>CC</sub>
Current consumption	I <sub>CC</sub>	-	-	2.2	mA	No load condition, V <sub>CC</sub> = 3.3 V
Stand-by current	I <sub>std</sub>	-	-	2.7	μA	ST = GND, V <sub>CC</sub> = 3.3 V
Output voltage	V <sub>OH</sub>	90 % V <sub>CC</sub>	-	-	V	I <sub>OH</sub> = -1.5 mA @V <sub>CC</sub> = 1.8 V
	V <sub>OL</sub>	-	-	10 % V <sub>CC</sub>	V	I <sub>OL</sub> = 1.5 mA @V <sub>CC</sub> = 1.8 V
Rise time	t <sub>r</sub>	-	-	3.5	ns	20 % V <sub>CC</sub> to 80 % V <sub>CC</sub> Level, L <sub>CMOS</sub> = 15 pF, V <sub>CC</sub> = 1.8 V ± 10 %
Fall time	t <sub>f</sub>	-	-	3.5	ns	80 % V <sub>CC</sub> to 20 % V <sub>CC</sub> Level, L <sub>CMOS</sub> = 15 pF, V <sub>CC</sub> = 1.8 V ± 10 %
Symmetry	SYM	45	-	55	%	50 % V <sub>CC</sub> Level, L <sub>CMOS</sub> ≤ 15 pF
Input voltage	V <sub>IH</sub>	80 % V <sub>CC</sub>	-	-	V	ST terminal
	V <sub>IL</sub>	-	-	20 % V <sub>CC</sub>	V	ST terminal

## [ Please visit our website for detail specification ]

[https://support.epson.biz/td/api/doc\\_check.php?dl=app\\_SG3225CAN&lang=en](https://support.epson.biz/td/api/doc_check.php?dl=app_SG3225CAN&lang=en)

Detail specification includes Outline, Reflow profile, Packing information and others.

## [ Contact us ]

<http://www5.epsondevice.com/en/contact/>

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