

**NEW**Product Number (please contact us)
X1B000211xxxx00**CRYSTAL OSCILLATOR**

32.768 kHz

SG-3030 CM

- Built-in 32.768 kHz crystal unit allows adjustment-free efficient operation.
- Use of C-MOS IC enables reduction of current consumption.
- VIO controls swing amplitude.

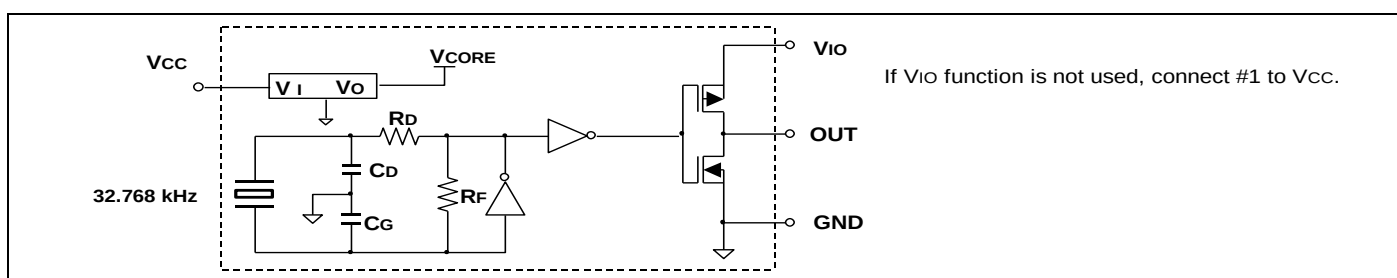


Actual size

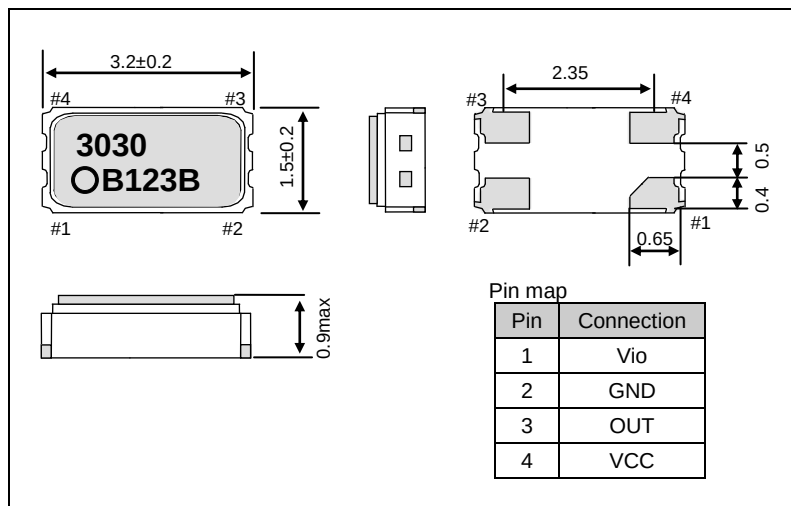
**Specifications (characteristics)**

Item		Symbol	Specifications	Remarks
Output frequency range		f _o	32.768 kHz	
Supply voltage		V _{cc}	1.5 V to 5.5 V	
Interface power supply voltage		V _{io}	1.5 V to 5.5 V	
Temperature range	Storage temperature	T _{stg}	-55 °C to +125 °C	Store as bare product after unpacking
	Operating temperature	T _{use}	-40 °C to +85 °C	
Frequency tolerance		f _{tol}	+5 ± 23 × 10 ⁻⁶	+25 °C, V _{cc} =3.3V
Frequency temperature coefficient		f _o -T _c	+10 × 10 ⁻⁶ / -120 × 10 ⁻⁶	-20 °C to +70 °C (+25 °C is reference)
Frequency voltage coefficient		f _o -V _{cc}	±2 × 10 ⁻⁶ / V Max	+25 °C,
Current consumption		I _{cc}	2 µA Max.	3.3V, No load condition
Symmetry		SYM	45 % to 55 %	1/2V _{cc} (V _{io}) level
High output voltage		V _{oh}	V _{io} -0.4V Min.	I _{oh} = -0.4mA
Low output voltage		V _{ol}	0.4V Max.	I _{ol} = 0.4mA
Output load condition (CMOS)		L _{CMOS}	15 pF Max.	CMOS load
Rise time / Fall time		t _r / t _f	200 ns Max.	CMOS load:20 % V _{cc} (V _{io}) to 80 % V _{cc} (V _{io}) level
Start-up time		t _{str}	1 s Max.	Time at minimum Supply voltage to be 0s +25 °C
Frequency aging		f _{aging}	±5 × 10 ⁻⁶ / year Max.	+25 °C,V _{cc} =3.3 V, First year

Unless otherwise stated, characteristics (specifications) shown in the above table are based on the rated operating temperature and voltage condition.

Block diagram**External dimensions**

(Unit:mm)

**Footprint (Recommended)**

(Unit:mm)

