



CRYSTAL OSCILLATOR (SPXO)

OUTPUT : CMOS

HIGH-STABILITY

HG - 2150CA series

- Frequency range : 1 MHz to 60 MHz
- Supply voltage : 3.3 V Typ. / 5.0 V Typ.
- Frequency tolerance : $\pm 15 \times 10^{-6}$ / -20 °C to +70 °C
- Function : Output enable (OE)
- External dimensions : 7.0 × 5.0 × 1.4 mm



Product Number (please contact us)
Q3514CA00xxxx00



Actual size



Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Remarks
		SVH / BXH	SVC / BXC	
Output frequency range	f _o	1.000 MHz to 60.000 MHz		Please contact us about available frequencies.
Supply voltage	V _{cc}	H:5.0 V ±0.5 V	C:3.3 V ±0.3 V	
Storage temperature	T _{stg}	-40 °C to +125 °C		Storage as single product.
Operating temperature	T _{use}	V:-20 °C to +70 °C X:-40 °C to +85 °C		
Frequency tolerance	f _{tol}	S: ±15 × 10 ⁻⁶ *1		-20 °C to +70 °C
		B: ±25 × 10 ⁻⁶ *1		-40 °C to +85 °C
Current consumption	I _{cc}	30 mA Max.	25 mA Max.	No load condition, OE = V _{cc}
Disable current	I _{dis}	15 mA Max.	12 mA Max.	OE=GND
Symmetry	SYM	45 % to 55 %		50 % V _{cc} level
Output voltage	V _{OH}	V _{cc} -0.4 V Min.		I _{OH} = -4 mA
	V _{OL}	0.4 V Max.		I _{OL} = 4 mA
Output load condition	L _{CMOS}	15 pF Max.		CMOS load
Input voltage	V _{IH}	70 % V _{cc} Min.		OE terminal
	V _{IL}	30 % V _{cc} Max.		
Rise time / Fall time	t _r / t _f	4 ns Max.		20 % V _{cc} to 80 % V _{cc} level
Start-up time	t _{str}	10 ms Max.		Time at minimum supply voltage to be 0 s.
Frequency aging	f _{aging}	±10 × 10 ⁻⁶ Max. *2		+25 °C, 10 years

*1 Frequency tolerance includes variation in reflow soldering drift, operating temperature range, supply voltage range and load change.

*2 50 MHz < f_o ≤ 60 MHz: $\pm 15 \times 10^{-6}$ Max.

Product Name HG-2150CA 35.328000MHz S V H

(Standard form)

① ② ③④⑤

①Model ②Frequency ③Frequency tolerance ④Operating temperature ⑤Supply voltage

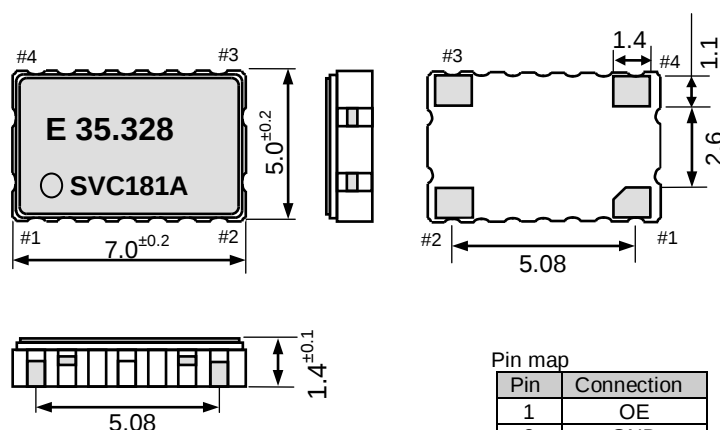
③Frequency tolerance	
S	$\pm 15 \times 10^{-6}$ / -20 to +70°C
B	$\pm 25 \times 10^{-6}$ / -40 to +85°C

④Operating temperature	
V	-20 to +70°C
X	-40 to +85°C

⑤Supply voltage	
C	3.3 V Typ.
H	5.0 V Typ.

External dimensions

(Unit:mm)



Note.

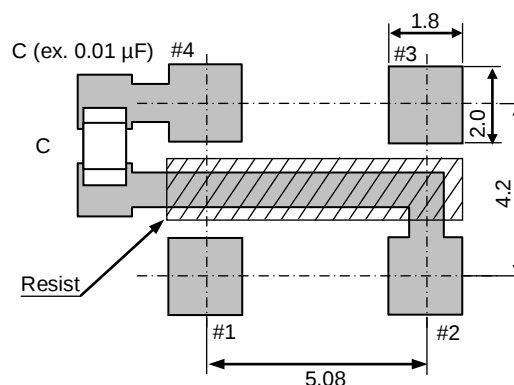
OE Pin

OE pin = "H" or "open" : Specified frequency output.

OE pin = "L" : Output is high impedance

Footprint (Recommended)

(Unit:mm)



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_{cc} - GND).