

LOW-JITTER SAW OSCILLATOR (SPSO)

OUTPUT : HCSL



Product Number
X1M000461xxxx00

XG5032HAN

- Frequency range : 100 MHz to 200 MHz
- Supply voltage : 2.5 V, 3.3 V
- Output : HCSL
- Function : Output enable (OE)
- External dimensions : 5.0 × 3.2 × 1.4 mm



•Low jitter and low phase noise by SAW unit.

Specifications (characteristics)

| Item | Symbol | Specifications | Conditions / Remarks |
|--|---------------------------------|--|--|
| Output frequency range | f _o | 100 MHz to 200 MHz | Please contact us for inquiries regarding available frequencies. |
| Supply voltage | V _{CC} | C:3.3 V ± 0.33 V, D:2.5 V ± 0.125 V | |
| Storage temperature | T _{stg} | -55 °C to +125 °C | Store as bare product. |
| Operating temperature | T _{use} | A: 0 °C to +70 °C, B: -20 °C to +70 °C, D: -5 °C to +85 °C | |
| Frequency tolerance | f _{tol} | J: ± 50 × 10 ⁻⁶ , L: ± 100 × 10 ⁻⁶ | |
| Current consumption | I _{CC} | 35 mA Max. | OE = V _{CC} , with output load |
| Disable current | I _{dis} | 15 mA Max. | OE = GND |
| Symmetry | SYM | 45 % to 55 % | At outputs crossing point |
| Output voltage | V _{OH} | 0.75 V Typ., 0.66 V to 0.85 V | DC characteristics, single output |
| | V _{OL} | 0 V Typ., -0.15 V to 0.15 V | |
| Crossing voltage | V _{CR} | 0.25 V to 0.55 V | |
| Output load condition | L _{HCSL} | 50 Ω | As per measurement circuit below. |
| | R _S | 33 Ω | |
| | C _L | 2 pF | |
| Input voltage | V _{IH} | 70 % V _{CC} Min. | OE terminal |
| | V _{IL} | 30 % V _{CC} Max. | |
| differential output rise slew rate/ fall slew rate | R _r / R _f | 1 V/n to 4 V/ns | Between -0.15 V and 0.15 V of differential output |
| Start-up time | t _{str} | 10 ms Max. | Time at minimum supply voltage to be 0 s |
| Phase Jitter | t _{PJ} | 0.3 ps Max. | fo ≤ 160 MHz |
| | | 0.4 ps Max. | 160 MHz < fo ≤ 175 MHz |
| | | 0.2 ps Max. | fo > 175 MHz |
| Frequency aging | f _{age} | N ± 10 × 10 ⁻⁸ / year Max. | First year |
| | | A: Included in Frequency tolerance | 10 years |

Product Name XG5032 HAN 100.000000MHz C J A A (ⓈⓈⓈ:JBA,JDA are not available)

(Standard form)

① Model ② Output(H: HCSL) ③ Frequency

④ Supply voltage (C: 3.3 V Typ., D: 2.5 V Typ.) ⑤ Frequency tolerance ⑥ Operating temperature

⑦ Frequency aging (A: Frequency tolerance include aging, N: Frequency tolerance exclude aging)

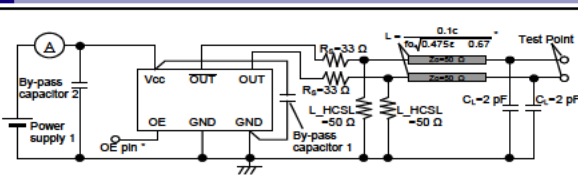
Ⓢ Frequency tolerance

| | |
|---|-------------------------|
| J | ±50 × 10 ⁻⁶ |
| L | ±100 × 10 ⁻⁶ |

Ⓢ Operating temp.

| | |
|---|------------------|
| A | 0 °C to +70 °C |
| B | -20 °C to +70 °C |
| D | -5 °C to +85 °C |

Measurement circuit



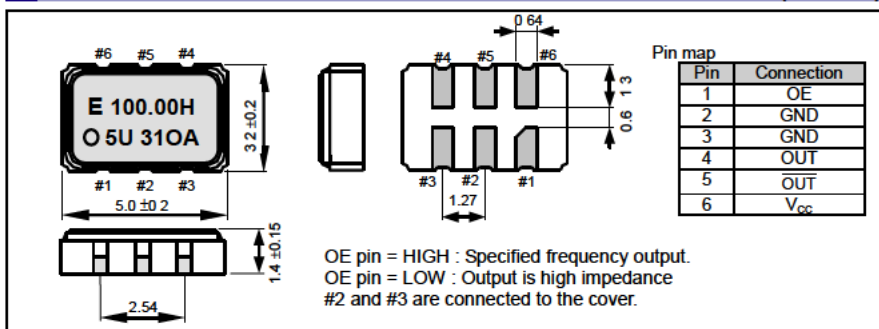
By-pass capacitor 1 (approx. 0.01 μF to 0.1 μF) places closely between V_{CC} and GND.
By-pass capacitor 2 (approx. 10 μF) places closely between power supply terminals on the board.
Output line length L is estimated as follows

$$L = \frac{0.1c}{f_o \sqrt{0.475\epsilon_r + 0.67}}$$

c : Velocity of light in a vacuum
ε_r : Relative dielectric constant of the board
f_o : Output frequency

External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)

