

**CRYSTAL OSCILLATOR**
LOW-JITTER SAW OSCILLATOR**EG-2101CA**

- Frequency range : 62.5 MHz to 99.999 MHz
- Supply voltage : 3.3 V
- Output : Differential LV-PECL
- Function : Output enable(OE)
- Thickness : 1.2 mm Typ.
- Very low jitter and low phase noise by SAW unit.



Actual size

**Specifications (characteristics)**

Item	Symbol	Specifications	Remarks
Output frequency range	f ₀	62.500 MHz to 99.999 MHz	Please contact us for inquiries regarding available frequencies
Supply voltage	V _{cc}	3.3 V ±0.15 V	
Temperature range	Storage temperature T _{stg}	-40 °C to +100 °C	Store as bare product after unpacking
	Operating temperature T _{use}	0 °C to +70 °C	
Frequency tolerance	f _{tol(osc)}	±50 × 10 ⁻⁶ , ±100 × 10 ⁻⁶	0 °C to +70 °C *1
Current consumption	I _{cc}	60 mA Max.	OE=V _{cc} , R _L =50 Ω
Output disable current	I _{oe}	25 mA Max.	OE=GND
Symmetry *3	SYM	D:47.5 % to 52.5 %	DCH,DCY,DCZ at outputs crossing point
High output voltage	V _{OH}	2.35 V Typ. V _{cc} -1.025 to V _{cc} -0.88	DC characteristics
Low output voltage	V _{OL}	1.60 V Typ. V _{cc} -1.81 to V _{cc} -1.62	
Output load condition	R _L	50 Ω	Terminated to V _{cc} -2.0 V
High input voltage	V _{IH}	70 % V _{cc} Min.	OE terminal
Low input voltage	V _{IL}	30 % V _{cc} Max.	OE terminal
Output rise and fall time	t _r / t _f	600 ps Max.	20 % to 80 % (V _{OH} -V _{OL})
Oscillation start up time	t _{osc}	10 ms Max.	Time at minimum supply voltage to be 0 s
Jitter *2	t _{dj}	0.2 ps Typ.	Deterministic Jitter
	t _{rj}	3 ps Typ.	Random Jitter
	t _{rms}	3 ps Typ.	σ (RMS of total distribution)
	t _{p-p}	25 ps Typ.	Peak to Peak
	t _{acc}	4 ps Typ.	Accumulated Jitter(σ) n=2 to 50000 cycles
Phase Jitter	t _{pj}	0.05 × 10 ⁻³ UI Typ.	Offset frequency: 12 kHz to 20 MHz
		1 ps Max.	
Frequency aging *3	f _{aging}	± 5 × 10 ⁻⁶ / year Max.	+25 °C, First year, V _{cc} =3.3 V

*1 As per below table

*2 Based on DTS-2075 Digital timing system made from WAVECREST with jitter analysis software VISI6.

*3 Except : PCH,DCH

Output mode (Symmetry)		D:Symmetry 50 ±2.5 %
Details of frequency tolerance	H: ±100 × 10 ⁻⁶ (0 °C to +70 °C)*4	DCH
	Y: ±100 × 10 ⁻⁶ (0 °C to +70 °C) *5	DCY
	Z: ±50 × 10 ⁻⁶ (0 °C to +70 °C)*6	DCZ

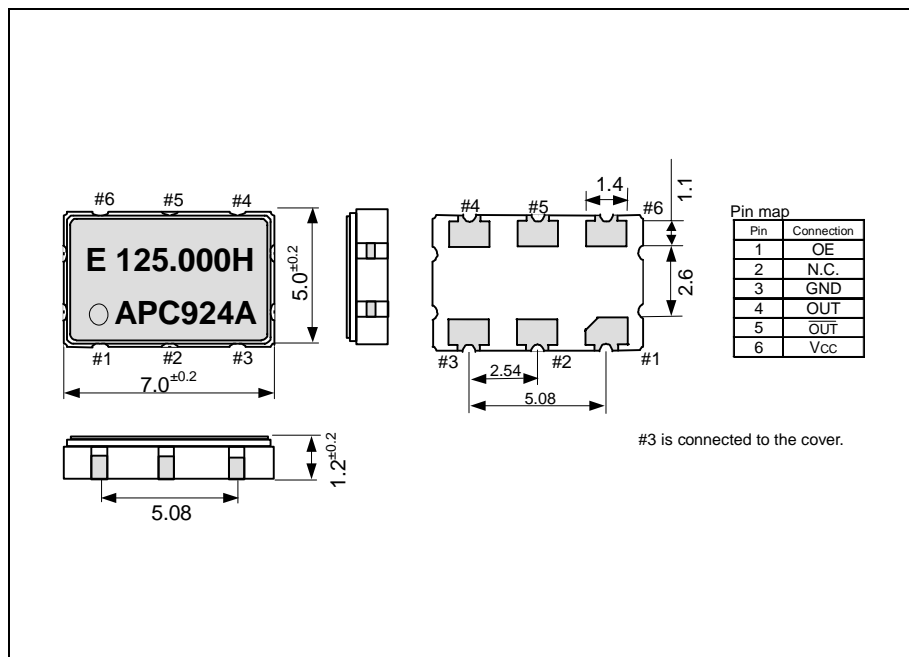
*4 This includes initial frequency tolerance, temperature variation, supply voltage variation, reflow drift, and aging(+25 °C,10 years).

*5 This includes initial frequency tolerance, temperature variation, supply voltage variation, and reflow drift(except aging).

*6 This includes initial frequency tolerance and temperature variation(except supply voltage variation, reflow drift, aging).

External dimensions

Unit:mm

**Footprint (Recommended)**

Unit:mm

