

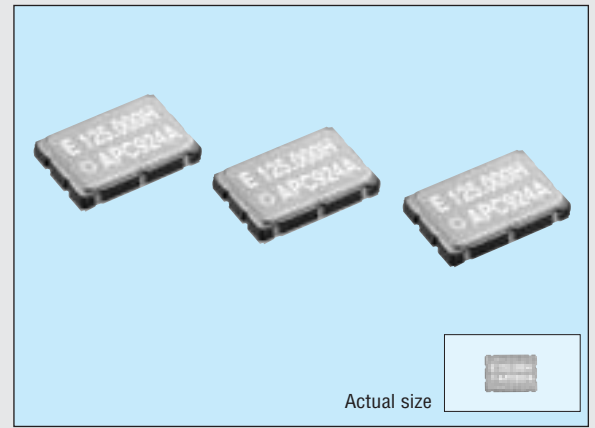
LOW JITTER HIGH FREQUENCY CRYSTAL OSCILLATOR

EG-2101CA

Product number (please refer to page 2)

Q3803CA0xxxxx00

- Generates high frequency clock with fundamental mode
- Very low jitter and low phase noise.
- Ceramic package with 1.4 mm Max. thickness.
- Excellent shock resistance and environmental capability.
- Differential LV-PECL output.
- Provided with output enable function (OE).



Specifications (characteristics)

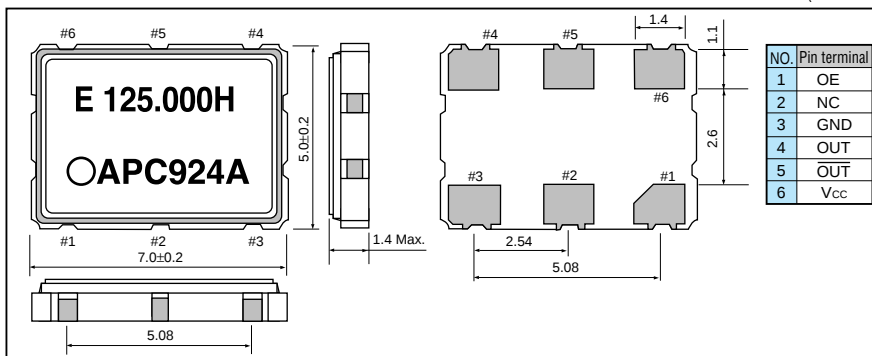
Item	Symbol	Specifications	Remarks
Output frequency range	f_0	62.5000 MHz to 400.000 MHz	Please contact us for inquiries about the available frequency
Power source voltage	Max. supply voltage	V_{CC-GND}	-0.5 V to +7.0 V
	Operating voltage	V_{CC}	3.3 V $\pm$ 0.15 V
Temperature range	Storage temperature	T_{STG}	-40 °C to +100 °C
	Operating temperature	T_{OPR}	0 °C to +70 °C
Frequency stability	$\Delta f/f_0$	$\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$ *1	0 °C to +70 °C
Current consumption	I_{OP}	60 mA Max.	OE= V_{CC}
Output disable current	I_{OE}	25 mA Max.	OE=GND
Duty	t_w/t	45 % to 55 %	PCH.PCY.PCZ
		47.5 % to 52.5 %	$f_0 \leq 160$ MHz DCH.DCY.DCZ
Output voltage	V_{OH}	2.35 V Typ. $V_{CC}-1.025$ to $V_{CC}-0.88$	DC characteristics
	V_{OL}	1.60 V Typ. $V_{CC}-1.81$ to $V_{CC}-1.62$	DC characteristics
Output load condition (fan out)	R_L	50 Ω	Terminated to $V_{CC}-2.0$ V
Output enable	V_{IH}	0.7 V_{CC} Min.	OE
disable input voltage	V_{IL}	0.3 V_{CC} Max.	OE
Output rise time	t_{TLH}	600 ps Max.	20 % $\rightarrow$ 80 % of ($V_{OH} - V_{OL}$)
Output fall time	t_{THL}	600 ps Max.	80 % $\rightarrow$ 20 % of ($V_{OH} - V_{OL}$)
Oscillation start up time	t_{OSC}	10 ms Max.	Time at 3.15 V to be 0 s
Jitter	t_{DJ}	5 ps Typ.(10 ps Max.)	Deterministic Jitter
	t_{RJ}	3 ps Typ.(4 ps Max.)	Random Jitter
	t_{RMS}	3 ps Typ.(4 ps Max.)	σ
	t_{p-p}	25 ps Typ.(40 ps Max.)	Peak to Peak
	t_{acc}	4 ps Typ.(5 ps Max.)	Accumulated Jitter(σ) n= 2 to 50000 cycles

*1 Include initial frequency tolerance, reflow shift, temperature variation, supply voltage variation and aging (As per below table).

Operating voltage		C : 3.3 V		
Output mode		P : Duty $\pm$ 5%		D : Duty $\pm$ 2.5%
Frequency range(MHz)		125 to 318.75	318.751 to 400	62.5 to 160
Frequency stability	H : $\pm 100 \times 10^{-6}$ (0 °C to +70 °C)	PCH	—	DCH
	Y : $\pm 100 \times 10^{-6}$ (0 °C to +70 °C) except Aging	PCY	PCY	DCY
	Z : $\pm 50 \times 10^{-6}$ (0 °C to +70 °C) except Reflow soldering drift, Operating voltage range and Aging	PCZ	—	DCZ

External dimensions

(Unit: mm)



Recommended soldering pattern (Unit: mm)

