

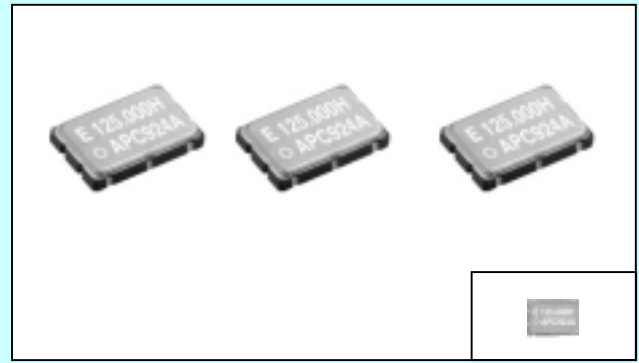
LOW JITTER HIGH FREQUENCY CRYSTAL OSCILLATOR

EG-2101CA

Product number (please contact us)

Q3803CA0xxxxx00

- Frequency range : 62.5 MHz to 400 MHz
- Operating voltage : 3.3 V
- Output : Differential LV-PECL
- Function : Output enable(OE)
- Thickness : 1.2 mm Typ.
- Lead(Pb)-free : Comply with EU RoHS directive
(Lead free completely)
- Very low jitter and low phase noise by SAW unit.



Actual Size

■ Specifications (characteristics)

Item	Symbol	Specifications	Remarks
Output frequency range	f_0	62.5000 MHz to 400.0000 MHz	Please contact us for inquiries about the available frequency
Power source voltage	Max. supply voltage	V_{CC-GND}	-0.5 V to +4.0 V
	Operating voltage	V_{CC}	3.3 V ± 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	$\Delta f/f_0$	$\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$	0 °C to +70 °C *1
Current consumption	I_{CC}	60 mA Max.	OE= V_{CC}
Output disable current	I_{OE}	25 mA Max.	OE=GND
Duty	tw/t	P:45 % to 55 % D:47.5 % to 52.5 %	PCH,PCY,PCZ 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
Low input voltage	V_{IL}	30 % V_{CC} Max.	OE
Output rise time *1	t_R	600 ps Max.	20 % $\rightarrow$ 80 % ($V_{OH}-V_{OL}$)
Output fall time *1	t_F	600 ps Max.	80 % $\rightarrow$ 20 % ($V_{OH}-V_{OL}$)
Oscillation start up time	t_{OSC}	10 ms Max.	Time at minimum operating 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. 1 ps Max.	offset frequency: 12 kHz to 20 MHz

*1 This includes initial frequency tolerance, temperature variation, supply voltage variation, reflow drift, and 10 years aging (As per below table).

*2 Based on DTS-2075 Digital timing system made from WAVECREST with jitter analysis software VISI6. *3 As per below table

Output mode		P:Duty 50 ± 5 %		D:Duty 50 ± 2.5 %	
Frequency range (MHz)		12.5 to 318.75	318.751 to 400	62.5 to 159.375	159.375 to 200
Details of 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	DCY
	Z: $\pm 50 \times 10^{-6}$ (0 °C to +70 °C)	PCZ	—	DCZ	—
	except Reflow drift, Supply voltage variation, load variation and Aging				

■ External dimensions

(Unit:mm) ■ Recommended soldering pattern (Unit:mm)

