

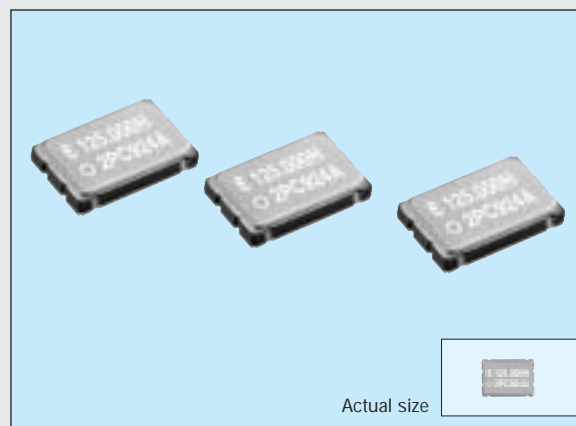
LOW JITTER HIGH FREQUENCY CRYSTAL OSCILLATOR

EG-2002CA

Product number (please refer to page 2)

Q3802CA0xxxxx00

- 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.
- LV TTL output
- Provided with output enable function (OE).



■ Specifications (characteristics)

Item		Symbol	Specifications	Remarks
Output frequency range		f_0	62.5000 MHz to 170.0000 MHz	Please contact us for inquiries about the available frequency
Power source voltage	Max. supply voltage	V_{DD-GND}	-0.5 V to +7.0 V	
	Operating voltage	V_{DD}	3.3 V \pm 0.3 V	
Temperature range	Storage temperature	T_{STG}	-40 °C to +100 °C	Stored as bare product after unpacking
	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 ~ +70 °C
Current consumption		I_{OP}	60 mA Max.	OE= V_{DD}
Output disable current		I_{OE}	25 mA Max.	OE=GND
Duty	C-MOS level	tw/t	45 % to 55 %	1.4 V Level, $C_L \leq$ Max.
	TTL level			
Output voltage	V_{OH}		V_{DD} -0.4 V Min.	$I_{OH} = -8$ mA
	V_{OL}		0.4 V Max.	$I_{OL} = 8$ mA
Output load condition (fan out)	C_L		25 pF Max.	$f_0 = 62.5$ MHz
			15 pF Max.	$f_0 > 62.5$ MHz
Output enable/disable input voltage	V_{IH}		0.7 V_{DD} Min.	OE
	V_{IL}		0.3 V_{DD} Max.	OE
Output rise time		t_{TLH}	1.5 ns Max.	0.8 V to 2.0 V, $C_L \leq$ Max.
Output fall time		t_{THL}	1.5 ns Max.	2.0 V to 0.8 V, $C_L \leq$ Max.
Oscillation start up time		t_{OSC}	10 ms Max.	Time at 3.0 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 50000cycles

*1.Frequency stability is including variation in reflow soldering drift, operating temperature range, operating voltage range, load change and Aging (As per below table).

Operating voltage		C : 3.3 V	
Output mode		P : Fundamental frequency	D : Divided frequency
Frequency range(MHz)		125 to 170	62.5 to 124.9999
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	DCY
	Z : $\pm 50 \times 10^{-6}$ (0 °C to +70 °C)	PCZ	DCZ
	except Reflow soldering drift, Load change, Operating voltage range and Aging		

■ External dimensions

(Unit: mm)

■ Recommended soldering pattern (Unit: mm)

