

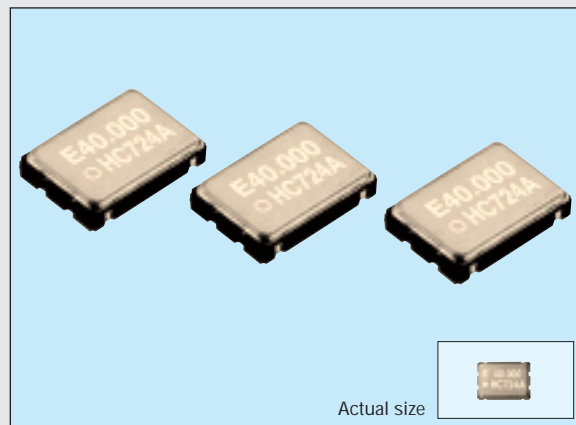
PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-8002CA series

Product number (please refer to page 1)
Q3309CAxxxxxx00

- Wide frequency output by PLL technology.
- Quick delivery of samples and short lead mass production time.
- Excellent environmental capability.
- Output enable function (OE) and stand-by function (ST) can be used for low current consumption applications.

8002 PROM Writer available to purchase.(Type:PRW-8000A3-M01)
 Please contact EPSON or local sales representative.



Specifications (characteristics)

Item	Symbol	PT/ST	PH/SH		PC/SC	Remarks
			Specifications *			
Output frequency range	f_0		1.0000 MHz to 125.0000 MHz			Refer to page 28. "Frequency range"
Power source voltage	Max. supply voltage	V_{DD_GND}	-0.5 V to +7.0 V			
	Operating voltage	V_{DD}	5.0 V \pm 0.5 V		3.3 \pm 0.3 V	3.0 V \pm 0.3 V: $f_0 \leq 66.7$ MHz(PC/SC)
Temperature range	Storage temperature	T_{STG}	-55 °C to +125 °C			Stored as bare product after unpacking
	Operating temperature	T_{OPR}	-20 °C to +70 °C (-40 °C to +85 °C)		-40 °C to +85 °C	Refer to page 28."Frequency range"
Frequency stability	$\Delta f/f_0$		B: $\pm 50 \times 10^{-6}$ C: $\pm 100 \times 10^{-6}$ M: $\pm 100 \times 10^{-6}$			B,C: -20 °C to +70 °C, M: -40 °C to +85 °C
Current consumption	I_{OP}		45 mA Max.		28 mA Max.	No load condition, Max. frequency range
Output disable current	I_{OE}		30 mA Max.		16 mA Max.	OE=GND
Standby current	I_{ST}		50 μ A Max.			\overline{ST} =GND
Duty	t_w/t		40 % to 60 %			CMOS load: 1/2 V_{DD} level
		40 % to 60 %				TTL load: 1.4 V level
High output voltage	V_{OH}		V_{DD} -0.4 V Min.			I_{OH} =-16 mA(PT/ST,PH/SH),-8 mA(PC/SC)
Low output voltage	V_{OL}		0.4 V Max.			I_{OL} = 16 mA(PT/ST,PH/SH), 8 mA(PC/SC)
Output load condition (fan out)	TTL	N	5 TTL Max.			Max. frequency and Max. operating voltage range
	CMOS	C_L	15 pF Max.		25 pF Max. 15 pF Max.	
Output enable/disable input voltage	V_{IH}		2.0 V Min.		0.7 x V_{DD} Min.	\overline{ST} , OE terminal
	V_{IL}		0.8 V Max		0.2 x V_{DD} Max.	
Output rise time	CMOS level	t_{rLH}	4 ns Max.			CMOS load: 20 % \rightarrow 80 % V_{DD}
	TTL level		4 ns Max.			TTL load: 0.4 V \rightarrow 2.4 V
Output fall time	CMOS level	t_{fHL}	4 ns Max.			CMOS load: 80 % \rightarrow 20 % V_{DD}
	TTL level		4 ns Max.			TTL load: 2.4 V \rightarrow 0.4 V
Oscillation start up time	t_{OSC}		10 ms Max.			Time at minimum operating voltage to be 0 s
Aging	f_a		$\pm 5 \times 10^{-6}$ /year Max.			$T_a = +25$ °C, $V_{DD} = 5.0$ V/3.3 V(PC/SC)
Shock resistance	S.R.		$\pm 20 \times 10^{-6}$ Max.			Three drops on a hard board from 750 mm or excitation test with 29400 m/s ² x 0.3 ms x 1/2sine wave in 3 directions

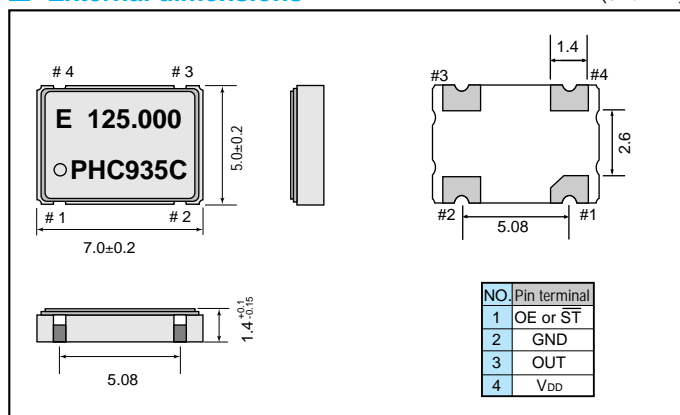
Note: • Please contact us for inquiries about operating temperature(-40 °C to +85 °C), the available frequency, duty and output load conditions.
 Checking possible by the Frequency Checking Program.

<http://www.epsondevice.com>

*PLL - PLL connection & Jitter specification, please refer to page 46.

External dimensions

(Unit: mm)



Recommended soldering pattern

(Unit: mm)

