

PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-8002DB/ DC series

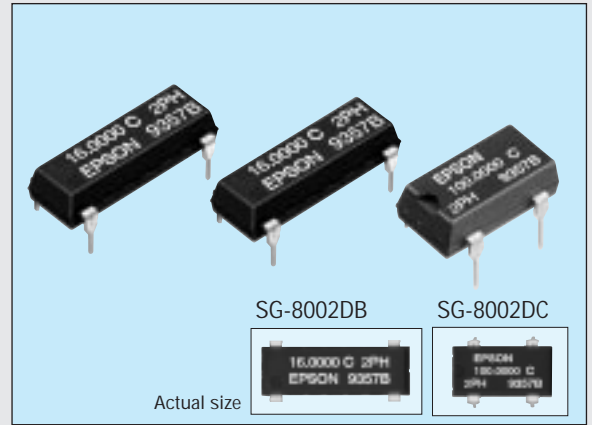
Product number (please refer to page 1)

Q3203DBxxxxxx00

Q3204DCxxxxxx00

- 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.
- Pin compatible with full size and half size.

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(PT, PH, PC)	
Standby current	I_{ST}	50 μ A Max.			ST=GND(ST, SH, SC)	
Duty	t_w/t_i	—		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	CL	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_{TLH}	—		4 ns Max.	CMOS load: 20 % \rightarrow 80 % V_{DD}
	TTL level	t_{TLH}	4 ns Max.		—	TTL load: 0.4 V \rightarrow 2.4 V
Output fall time	CMOS level	t_{THL}	—		4 ns Max.	CMOS load: 80 % \rightarrow 20 % V_{DD}
	TTL level	t_{THL}	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	

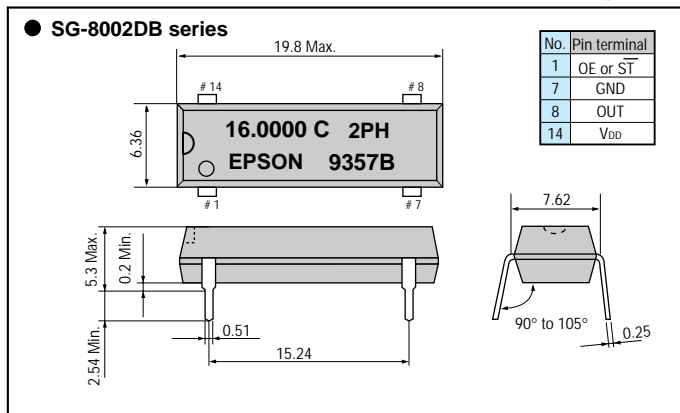
Note: • Please contact us for inquiries about operating temperature(-40 °C to +85 °C), the available frequency, duty and output load conditions.
Checking possible by the Frequency Checking Program.

<http://www.epsondevice.com>

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

External dimensions

(Unit: mm)



(Unit: mm)

