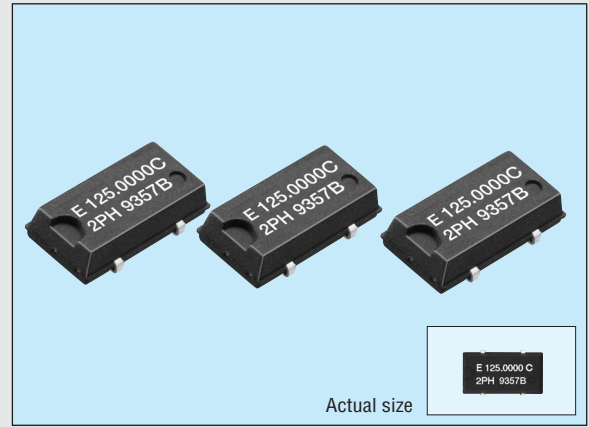


PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

# SG-8002JC series

- Wide frequency output by PLL technology.
- Quick delivery of samples and short lead mass production time.
- Excellent shock resistance and environmental capability.
- Output enable function (OE) and stand-by function (ST) can be used for low current consumption applications.
- Package and pin compatible with SG-636.

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



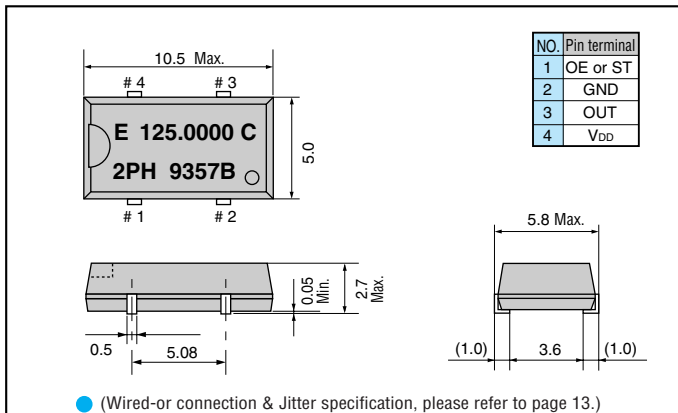
## Specifications (characteristics)

Item	Symbol	PT/ST	PH/SH	PC/SC	Remarks
		Specifications			
Output frequency range	$f_0$	1.0000 MHz to 125.0000 MHz			
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 +100 °C			
	Operating temperature	$T_{OPR}$ -20 °C to +70 °C			Refer to page 4."Frequency range"
Soldering condition	$T_{SOL}$	Twice at under +260 °C within 10 s or under +230 °C within 3 min.			
Frequency stability	$\Delta f/f_0$	B: $\pm 50 \times 10^{-6}$ C: $\pm 100 \times 10^{-6}$			-20 °C to +70 °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 $\mu$ A Max.			ST=GND(ST, SH, SC)
Duty	$t_w/t$	—		40 % to 60 %	C-MOS 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
	C-MOS	$C_L$		15 pF Max.	
Output enable/disable input voltage	$V_{IH}$	2.0 V Min.		0.7 x $V_{DD}$ Min.	ST, OE terminal
	$V_{IL}$	0.8 V Max.		0.2 x $V_{DD}$ Max.	
Output rise time	C-MOS level	$t_{rLH}$		4 ns Max.	C-MOS load: 20 % $\rightarrow$ 80 % $V_{DD}$
	TTL level	4 ns Max.		—	TTL load: 0.4 V $\rightarrow$ 2.4 V
Output fall time	C-MOS level	$t_{rHL}$		4 ns Max.	C-MOS 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 <sup>2</sup> x 0.3 ms x 1/2sine wave in 3 directions

Note: • Please contact us for inquiries about usable frequencies, duty and output load conditions. Checking possible by the Frequency Checking Program. <http://www.epson.co.jp/CRYSTAL/>  
Metal may be exposed on the top of this product. This won't affect any quality, reliability or electrical spec.

## External dimensions

(Unit: mm)



## Recommended soldering pattern

(Unit: mm)

