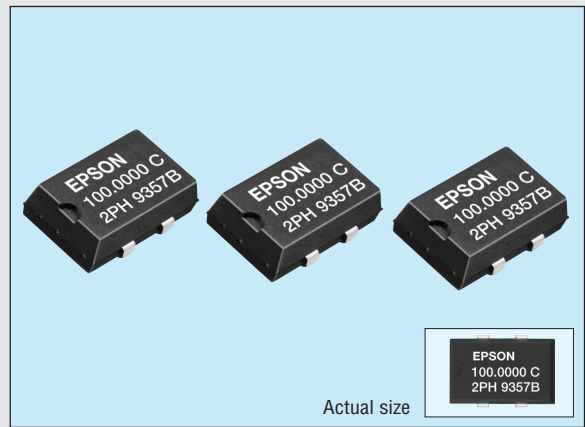


PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-8002JA 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-615.

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



Actual size

■ Specifications (characteristics)

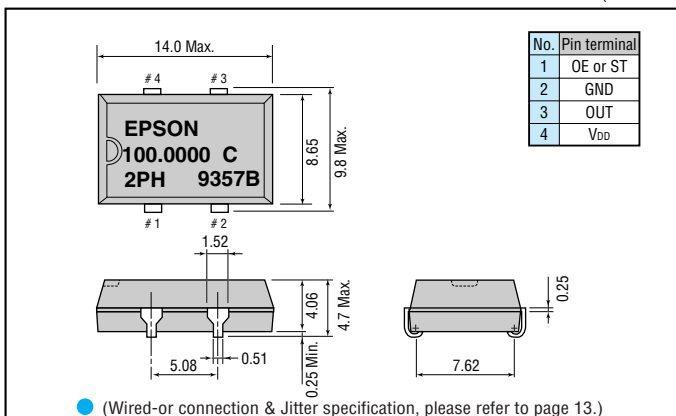
Item	Symbol	PT/ST	PH/SH	PC/SC	Remarks
Output frequency range	f_0		1.0000 MHz to 125.0000 MHz		
Power source voltage	Max. supply voltage	V_{DD-GND}	-0.5 V to +7.0 V		
	Operating voltage	V_{DD}	5.0 V \pm 0.5 V	3.3 \pm 0.3 V	3.0 V \pm 0.3 V: $f_0 \leq 66.7$ MHz(PC/SC)
Temperature range	Storage temperature	T_{STG}	-55 °C to +125 °C		
	Operating temperature	T_{OPR}	-20 °C to +70 °C (-40 °C to +85 °C)	-40 °C to +85 °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: $\pm 100 \times 10^{-6}$ 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	—		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.	15 pF Max.	
Output enable/disable input voltage		V_{IH}	2.0 V Min.		\overline{ST} , OE terminal
		V_{IL}	0.8 V Max.		
Output rise time	C-MOS level	t_{rLH}	—		C-MOS load: 20 % \rightarrow 80 % V_{DD}
	TTL level		4 ns Max.		
Output fall time	C-MOS level	t_{rHL}	—		C-MOS load: 80 % \rightarrow 20 % V_{DD}
	TTL level		4 ns Max.		
Oscillation start up time	t_{OSC}	10 ms Max.			Time at minimum operating voltage to be 0 s
Aging	f_a	$\pm 5 \times 10^{-9}$ /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), usable frequencies, duty and output load conditions. Checking possible by the Frequency Checking Program.

<http://www.epson.co.jp/CRYSTAL/>

■ External dimensions

(Unit: mm)



■ Recommended soldering pattern

(Unit: mm)

