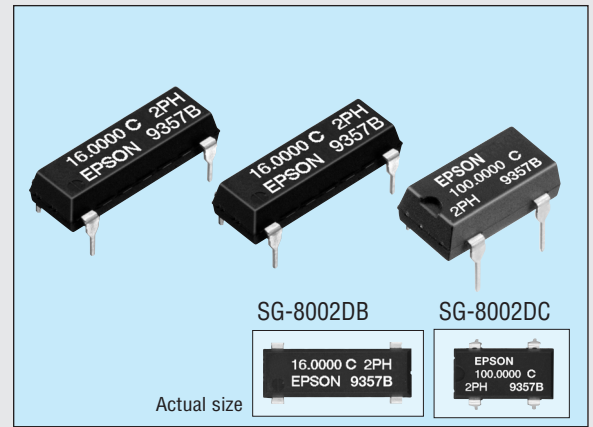


PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

SG-8002DB/ DC 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.
- 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)

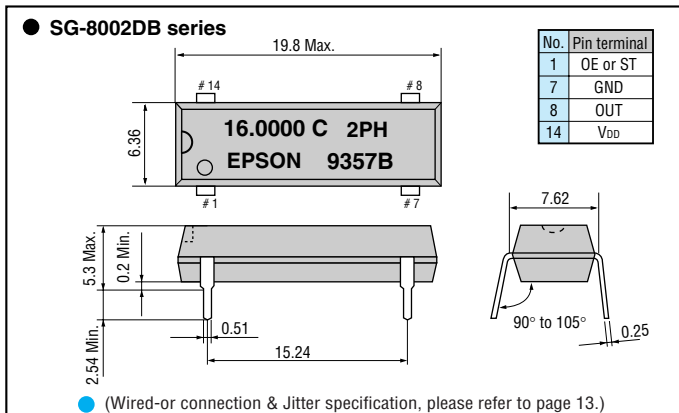
Item	Symbol	PT/ST	Specifications		Remarks	
			PH/SH	PC/SC		
Output frequency range	f_o		1.0000 MHz to 125.0000 MHz			
Power source voltage	Max. supply voltage	V_{DD-GND}	-0.5 V to +7.0 V			
	Operating voltage	V_{DD}	5.0 V \pm 0.5 V	3.3 \pm 0.3 V	3.0 V \pm 0.3 V: $f_o \leq$ 66.7 MHz(PC/SC)	
Temperature range	Storage temperature	T_{STG}	-55 $^{\circ}$ C to +125 $^{\circ}$ C			
	Operating temperature	T_{OPR}	-20 $^{\circ}$ C to +70 $^{\circ}$ C (-40 $^{\circ}$ C to +85 $^{\circ}$ C)	-40 $^{\circ}$ C to +85 $^{\circ}$ C	Refer to page 4."Frequency range"	
Soldering condition	T_{SOL}	Twice at under +260 $^{\circ}$ C within 10 s or under +230 $^{\circ}$ C within 3 min.				
Frequency stability	$\Delta f/f_o$		B: $\pm 50 \times 10^{-6}$ C: $\pm 100 \times 10^{-6}$ M: $\pm 100 \times 10^{-6}$		B,C: -20 $^{\circ}$ C to +70 $^{\circ}$ C, M: -40 $^{\circ}$ C to +85 $^{\circ}$ 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.			
	C-MOS	C_L	15 pF Max.	25 pF Max.	15 pF Max.	Max. frequency and Max. operating voltage range
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	C-MOS level	t_{TLH}		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_{THL}		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		$\pm 5 \times 10^{-9}$ /year Max.		$T_a= +25$ $^{\circ}$ 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 $^{\circ}$ C to +85 $^{\circ}$ C), usable frequencies, duty and output load conditions. Checking possible by the Frequency Checking Program.

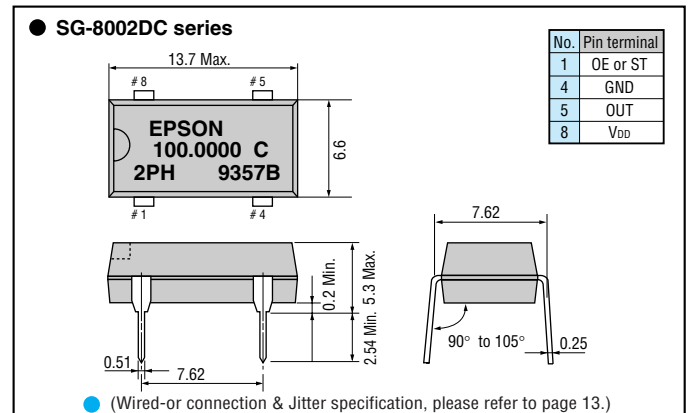
<http://www.epson.co.jp/CRYSTAL/>

External dimensions

(Unit: mm)

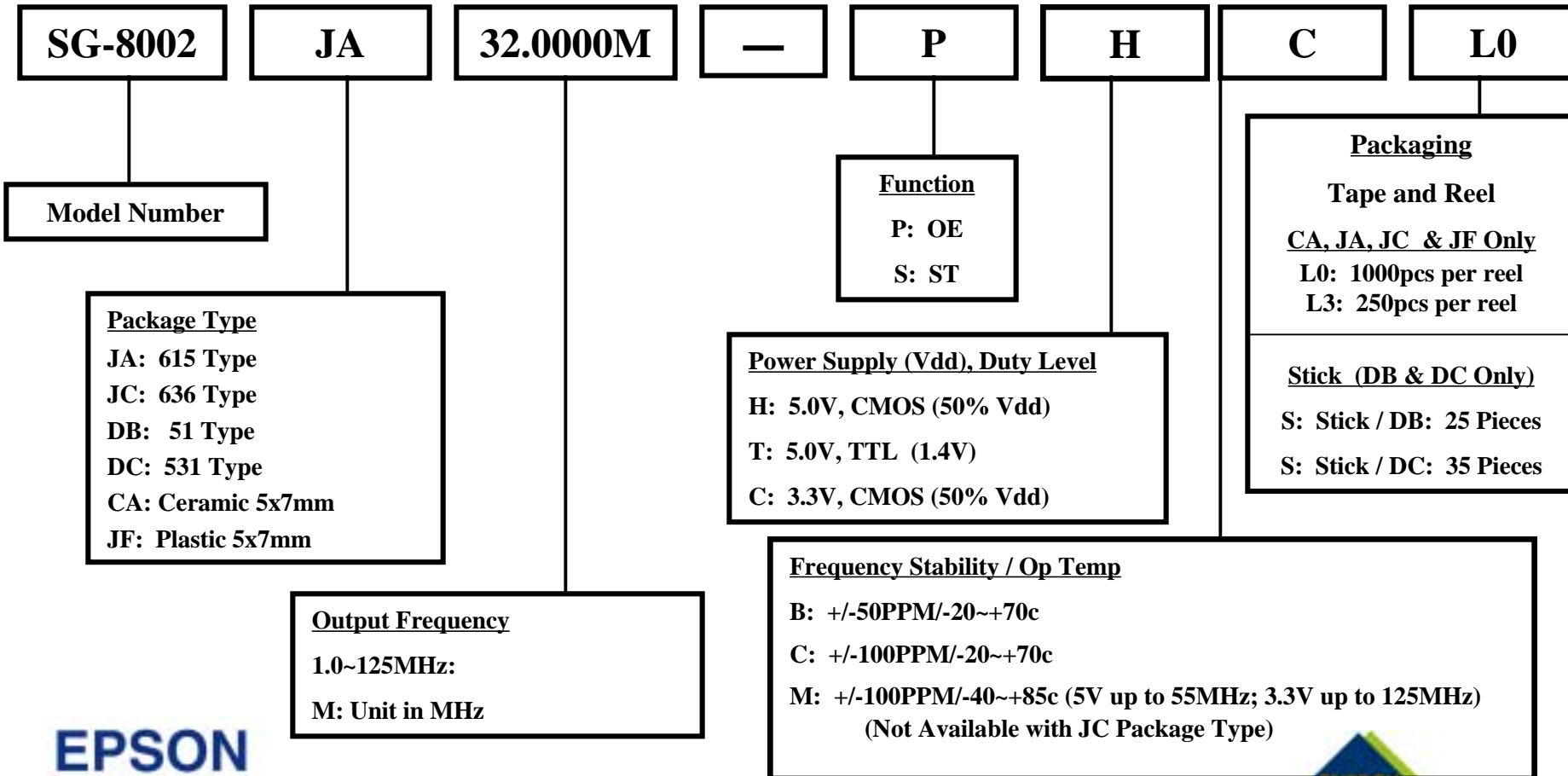


(Unit: mm)



Part Numbering System

Programmable Series Oscillators



EPSON

EPSON ELECTRONICS AMERICA, INC.

