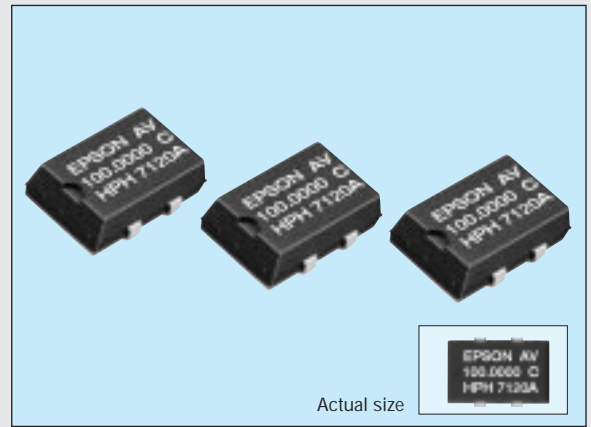


## PROGRAMMABLE HIGH-STABILITY HIGH-FREQUENCY CRYSTAL OSCILLATOR

**HG-8002JA series**

- Wide frequency output by PLL technology.
- Low current consumption by output enable function (OE) or standby function (ST).
- Pin compatible with SG-615.
- Low current consumption due to use of C-MOS technology.
- Excellent shock resistance and environmental capability.



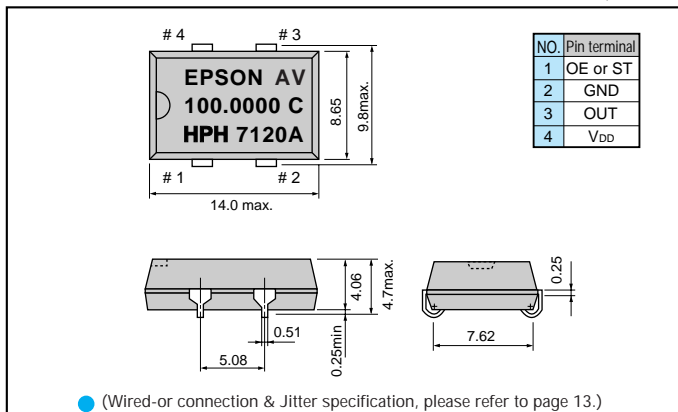
### Specifications (characteristics)

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	$V_{DD-GND}$			-0.5V to +7.0V
	Operating voltage	$V_{DD}$	5.0V±0.25V	3.3V ± 0.165V	
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)
Soldering condition	$T_{SOL}$	Twice at under 260°C within 10 sec. or under 230°C within 3 min.			Refer to page 6."Frequency range"
Frequency stability	$\Delta f/f_0$	AV: ±20ppm BV: ±25ppm CX: ±30ppm(-40°C to +85°C)			-20°C to +70°C
Current consumption	$I_{OP}$	45mA max.			28mA max.
Output disable current	$I_{OE}$	30mA max.			16mA max.
Standby current	$I_{ST}$	50 µA max.			
Duty	$t_w/t$	—			40% to 60%
		40% to 60%			—
High output voltage	$V_{OH}$	$V_{DD} - 0.4V$ min.			$I_{OH} = -16mA(PT/ST, PH/SH), -8mA(PC/SC)$
Low output voltage	$V_{OL}$	0.4V max.			$I_{OL} = 16mA(PT/ST, PH/SH), 8mA(PC/SC)$
Output load condition (fan out)	TTL	N			2TTL max.
	C-MOS	$C_L$			15pF max.
Output enable/disable input voltage	$V_{IH}$	2.0V min.			$0.7 \times V_{DD}$ min.
	$V_{IL}$	0.8V max.			$0.2 \times V_{DD}$ max.
Output rise time	C-MOS level	—			3ns max.
	TTL level	4ns max.			—
Output fall time	C-MOS level	—			3ns max.
	TTL level	4ns max.			—
Oscillation start up time	$t_{OSC}$	10ms max.			Time at minimum operating voltage to be 0 sec.
Aging	$f_a$	±2ppm/year max.			$T_a = 25^\circ C, V_{DD} = 5.0V/3.3V(PC/SC)$
Shock resistance	S.R.	±2ppm max.			Three drops on a hard board from 75 cm or excitation test with 3000G x 0.3ms 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.

### External dimensions

(Unit: mm)



### Recommended soldering pattern

(Unit: mm)

