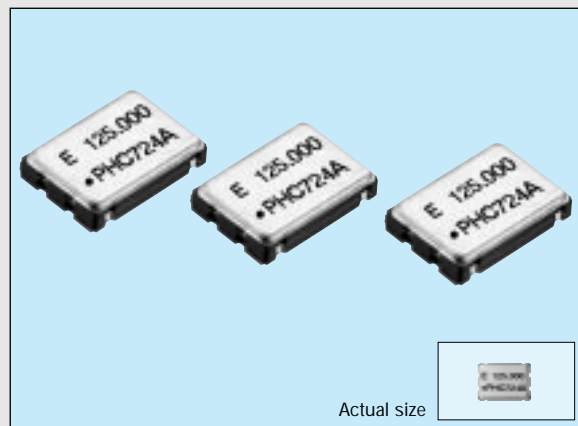


PROGRAMMABLE HIGH-FREQUENCY CRYSTAL OSCILLATOR

# SG-8002CA series

- Wide frequency range from 1MHz to 125MHz.
- Quick delivery of samples and short lead time by mass production.
- Use of C-MOS IC assures low current consumption.
- Excellent shock resistance and environmental capability.
- Output enable function (OE) and stand-by function (ST) can be used for low current consumption applications.



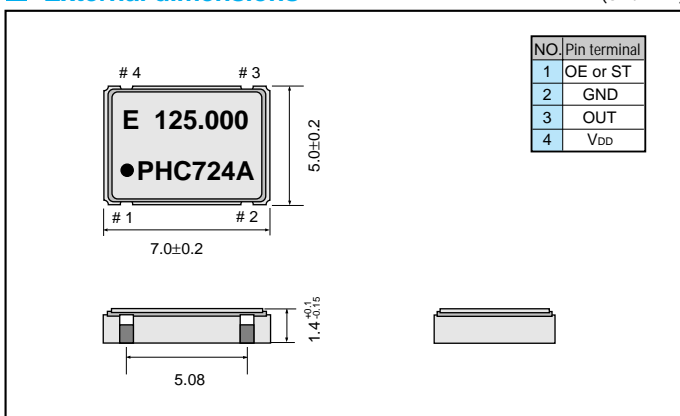
## Specifications (characteristics)

Item	Symbol	PT/ST	PH/SH	PC/SC	Remarks	
		Specifications				
Output frequency range	$f_0$	1.0000 MHz to 125.0000 MHz		1.0000 MHz to 90.0000 MHz		
Power source voltage	Max. supply voltage	$V_{DD-GND}$	-0.5V to +7.0V			
	Operating voltage	$V_{DD}$	5.0V±0.5V		2.7V to 3.6V	
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)		Operating voltage range	
Soldering condition	$T_{SOL}$	Twice at under 260°C within 10 sec. or under 230°C within 3 min.				
Frequency stability	$\Delta f/f_0$	B: ±50ppm C: ±100ppm M: ±100ppm(-40°C to +85°C)			-20°C to +70°C	
Current consumption	$I_{OP}$	45mA max.		25mA max.	No load condition, Max. frequency range	
Output disable current	$I_{OE}$	30mA max.		15mA max.	OE=GND	
Standby current	$I_{ST}$	50µA max.			ST=GND	
Duty	$t_w/t$	—		40% to 60%	C-MOS load: 1/2 $V_{DD}$ level	
		40% to 60%		—	TTL load: 1.4V level	
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	5TTL max.	—	Max. frequency and max. operating voltage range	
	C-MOS	$C_L$	15pF max.	25pF max.		15pF max.
Output enable/disable input voltage	$V_{IH}$	2.0v min.		$0.7 \times V_{DD}$ min.	$\overline{ST}$ , OE terminal	
	$V_{IL}$	0.8V max.		$0.2 \times V_{DD}$ max.		
Output rise time	C-MOS level	$t_{TLH}$	—		4ns max.	C-MOS load: 20%→80% $V_{DD}$
	TTL level		4ns max.		—	TTL load: 0.4V→2.4V
Output fall time	C-MOS level	$t_{THL}$	—		4ns max.	C-MOS load: 80%→20% $V_{DD}$
	TTL level		4ns max.		—	TTL load: 2.4V→0.4V
Oscillation start up time	$t_{OSC}$	10ms max.			Time at Operating voltage to be 0 sec.	
Aging	$f_a$	±5ppm/year max.			$T_a$ = 25°C, $V_{DD}$ = 5.0V/3.3V(PC/SC)	
Shock resistance	S.R.	±20ppm 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), usagle frequencies, duty and output load conditions.

## External dimensions

(Unit: mm)



## Recommended soldering pattern

(Unit: mm)

