

Programmable Clock Oscillator

SG - 8002CE series**Preliminary**

- Using PLL technology and One time PROM programmability for quick-turn custom version.
- Reflowable and high density mounting type smallest SMD package (3.2mm x 2.5mm) .
- Operable 3.3V or 5.0V and Out put frequencies from 1.0 MHz to 125 MHz at 5.0V (up to 90MHz at 3.3V).
- Output enable(OE : P type) or Standby (ST : S type) function allow more low current consumption.

Specifications

1. Absolute Maximum Ratings

Item	Symbol	PH / SH	PT / ST	PC / SC	Remarks
Storage Temperature	TSTG	- 55 to 100°C			Stored as bare product
Maximum supply voltage	VDD	- 0.5 to 7.0V			
Maximum input voltage	VIN	- 0.5 to VDD+0.5V			
Soldering condition	TSOL	Twice at under 260°C within 10sec.			

2. Operating Conditions

Item	Symbol	PH / SH	PT / ST	PC / SC	Remarks
Operating Temperature	TOPR	- 20 ~ 70°C			
Operating voltage	VDD	4.5 ~ 5.5V		2.7 ~ 3.6V	
Input voltage	VIN	GND ~ VDD			
Output load condition	CL	25 pF			(≤ 125 MHz)
			5TTL+15pF		(≤ 125 MHz)
				15 pF	(≤ 125 MHz / 3.3V) (≤ 66.7 MHz / 3.0V)

3. Frequency Characteristics

Item	Symbol	PH / SH	PT / ST	PC / SC	Remarks
Output frequency range*	fo	1.0 ~ 125 MHz			VDD=4.5 ~ 5.5V
				1.0 ~ 125MHz	VDD=3.0 ~ 3.6V
				1.0 ~ 66.7MHz	VDD=2.7 ~ 3.6V
Frequency stability	f / fo	B : ± 50 ppm C : ± 100 ppm			
Aging	fa	± 5ppm max.			Ta=+25°C, 1 st year

*Note :

Please contact to EPSON about Standard Frequency.

4. Characteristics

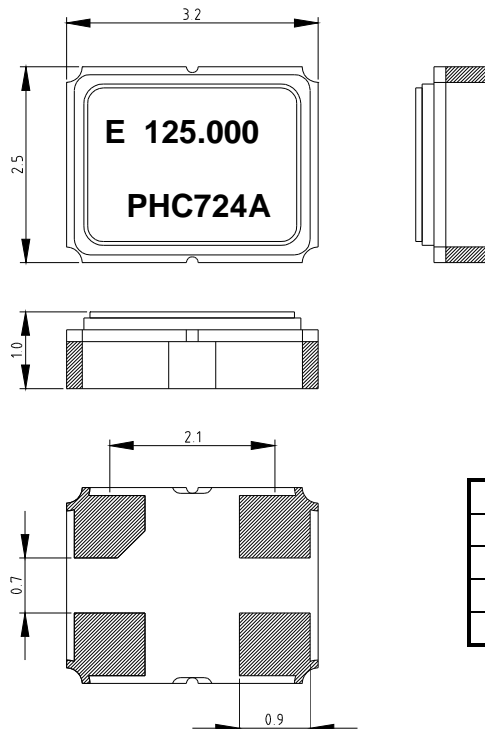
Item	Symbol	PH / SH	PT / ST	PC / SC	Remarks	
Current consumption	IOP	45 mA max.		25 mA max.		
Disable current	IOE	30 mA max.		15 mA max.	P type only	
Standby current	IST	50 µA max.			S type only	
OE or ST input voltage	V _{IH}	2.0V		70%V _{DD}		
	V _{IL}	0.8V		20%V _{DD}		
OE or ST input current	I _{IH}	5 µA max.			OE or ST = V _{DD}	
	I _{IL}	10 µA max.			OE or ST =GND	
Duty	tw / t	40 ~ 60%			50%V _{DD} , CL=25pF	
			40 ~ 60%		1.4V, 5TTL+15pF	
				40 ~ 60%	50%V _{DD} , CL=15pF V _{DD} =3.0~3.6V(≤125M) 50%V _{DD} , CL=15pF V _{DD} =2.7~3.6V (≤66.7M)	
Output voltage	C-MOS TTL	V _{OH}	V _{DD} -0.4		I _{OH} =-16mA	
			V _{OL}	0.4V		I _{OH} =- 8mA I _{OL} = +16mA
				0.4V	I _{OL} = +8mA	
Output rise time**	C-MOS	tr	4.0 ns		4.0 ns	20% to 80%V _{DD} CL= max.
	TTL			4.0 ns		0.4V to 2.4V CL= max.
Output fall time**	C-MOS	tf	4.0 ns		4.0 ns	80% to 20%V _{DD} CL= max.
	TTL			4.0 ns		2.4V to 0.4V CL= max.
Oscillation start up time	tOSC	10 ms. max.				

**Note :

Output wave form is not compatible with C-MOS level and TTL level.

Programmable wave form only for C-MOS level or TTL level.

5. External Dimensions (Unit : mm)



No.	Pin terminal
1	OE or ST
2	GND
3	OUT
4	VDD