

Programmable Clock Oscillator

SG - 8002CA series (-20 to +70 °C)

- Using PLL technology and One Time PROM programmability for quick-turn custom version.
- Reflowable and high density mounting type SMD package.
- Operable 5.0 V and Out put frequencies from 1.0 MHz to 125 MHz.
- 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	Remarks
Storage Temperature	T _{STG}	- 55 to +125 °C		Stored as bare product after unpacking
Maximum supply voltage	V _{DD}	- 0.5 to 7.0 V		
Maximum input voltage	V _{IN}	- 0.5 to V _{DD} +0.5 V		
Soldering condition	T _{SOL}	Twice at under +260 °C within 10 s or under +230 °C within 3 min.		

2. Operating Conditions

Item	Symbol	PH / SH	PT / ST	Remarks
Operating Temperature	T _{OPR}	- 20 to +70 °C		
Operating voltage	V _{DD}	4.5 to 5.5 V		
Input voltage	V _{IN}	GND to V _{DD}		
Output load condition	C _L	25 pF		(≤ 125 MHz)
		50 pF		(≤ 66.7 MHz)
			5TTL+15 pF 25 pF	(≤ 125 MHz) (≤ 66.7 MHz)

3. Frequency Characteristics

Item	Symbol	PH / SH	PT / ST	Remarks
Output frequency range*	f ₀	1.0 to 125MHz		
Frequency stability	f / f ₀	B : +/- 50 × 10 ⁻⁶ C : +/- 100 × 10 ⁻⁶		- 20 to +70 °C - 20 to +70 °C
Aging	f _a	+/- 5 × 10 ⁻⁶ Max.		

* Note :

Concerning frequency, please contact us to check the possibility in advance.
Because SG-8000 series has unavailable frequency.

4. Characteristics

Item		Symbol	PH / SH	PT / ST	Remarks
Current consumption		IOP	45 mA Max.		
Disable current		IOE	30 mA Max.		P type only
Standby current		IST	50 μA Max.		S type only
OE or ST input voltage		VIH	2.0 V		
		VIL	0.8 V		
OE or ST input current		IiH	5.0 μA Max.		OE or ST = VDD
		IiL	10.0 μA Max.		OE or ST = GND
Duty		tw / t	45 to 55 %		50 % VDD, CL=25 pF (≤ 66.7 MHz)
			40 to 60 %		50 % VDD, CL=25 pF (≤ 125 MHz)
			40 to 60 %		50 % VDD, CL=50 pF (≤ 66.7 MHz)
				45 to 55 %	1.4 V, 5 TTL+15 pF (≤ 66.7 MHz)
				40 to 60 %	1.4 V, 5 TTL+15 pF (≤ 125 MHz)
				40 to 60 %	1.4 V, CL=25 pF (≤ 66.7 MHz)
Output voltage	C-MOS TTL	VOH	VDD-0.4		Ioh=-16 mA
		VOL	0.4 V		IOL=16 mA
Output rise time	C-MOS	tr	4.0 ns		20 % to 80 % VDD CL=Max.
	TTL			2.0 ns 4.0 ns	0.8 V to 2.0 V CL=Max. 0.4 V to 2.4 V CL=Max.
Output fall time	C-MOS	tf	4.0 ns		80 % to 20 % VDD CL=Max.
	TTL			2.0 ns 4.0 ns	2.0 V to 0.8 V CL=Max. 2.4 V to 0.4 V 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)

