

CRYSTAL OSCILLATOR PROGRAMMABLE

SG - 8002JC / JA series

- Frequency range : 1 MHz to 125 MHz
- Supply voltage : 3.3 V or 5.0 V
- Function : Output enable(OE) or Standby(\overline{ST})
- Thickness : 2.7 mm Max.(SG-8002JC)
4.7 mm Max.(SG-8002JA)

Package and pin compatible with SG-636 (SG-8002JC)

Package and pin compatible with SG-615 (SG-8002JA)

• Short mass production lead time by PLL technology.

• SG-Writer available to purchase.

Please contact Epson Toyocom or local sales representative.



Actual size

SG-8002JC



SG-8002JA



Specifications (characteristics)

Item	Symbol	Specifications *2			Remarks	
		PT / ST	PH / SH	PC / SC		
Output frequency range	f_0	1 MHz to 125 MHz		—	$V_{CC}=4.5\text{ V to }5.5\text{ V}$	
		—		1 MHz to 125 MHz	$V_{CC}=3.0\text{ V to }3.6\text{ V}$	
		—		1 MHz to 66.7 MHz	$V_{CC}=2.7\text{ V to }3.6\text{ V}$	
Supply voltage	V_{CC}	4.5 V to 5.5 V		2.7 V to 3.6 V		
Temperature range	Storage temperature	T_{stg} -55 °C to +125 °C (JC: -55 °C to +100 °C)			Store as bare product after unpacking	
	Operating temperature	T_{use} -20 °C to +70 °C (-40 °C to +85 °C)		-40 °C to +85 °C	Refer to "Outline specifications" (Frequency range) SG-8002JC: -20 °C to +70 °C Only	
Frequency tolerance	$f_{tol(osc)}$	B: $\pm 50 \times 10^{-6}$, C: $\pm 100 \times 10^{-6}$ M: $\pm 100 \times 10^{-6}$			-20 °C to +70 °C -40 °C to +85 °C *3 (except SG-8002JC)	
Current consumption	I_{CC}	45 mA Max.		28 mA Max.	No load condition, Max. frequency	
Output disable current	I_{dis}	30 mA Max.		16 mA Max.	OE=GND(PT,PH,PC)	
Stand-by current	I_{std}	50 μ A Max.			\overline{ST} =GND(ST,SH,SC)	
Symmetry *1	SYM	—		40 % to 60 %	CMOS load: 50 % V_{CC} level, Max. load condition	
		40 % to 60 %		—	TTL load: 1.4V level, Max. load condition	
High output voltage	V_{OH}	$V_{CC}-0.4\text{ V Min.}$			$I_{OH}=-16\text{ mA(PT,ST,PH,SH), -8 mA(PC,SC)}$	
Low output voltage	V_{OL}	0.4 V Max.			$I_{OL}=16\text{ mA(PT,ST,PH,SH), 8 mA(PC,SC)}$	
Output load condition (TTL) *1	L_{TTL}	5TTL Max.		—	$f_0 \leq 90\text{ MHz}$ and Max. Supply voltage	
Output load condition (CMOS) *1	L_{CMOS}	15pF Max.			Max. frequency and Max. Supply voltage	
Output enable / disable input voltage	V_{IH}	2.0 V Min.		70 % V_{CC} Min.	\overline{ST} , OE terminal	
	V_{IL}	0.8 V Max.		20 % V_{CC} Max.	\overline{ST} , OE terminal	
Output rise and fall time *1	t_r / t_f	—			3 ns Max.	CMOS load: 20 % V_{CC} to 80 % V_{CC} level
		4 ns Max.		—	—	TTL load: 0.4 V to 2.4 V level
Oscillation start up time	t_{osc}	10 ms Max.			Time at minimum supply voltage to be 0 s	
Frequency aging	f_{aging}	$\pm 5 \times 10^{-6}$ / year Max.			+25 °C, $V_{CC}=5.0\text{ V} / 3.3\text{ V}$ (PC,SC) First year	

*1 Operating temperature (-40 °C to +85 °C), the available frequency, symmetry and output load conditions, please refer to "Outline specifications" page.

*2 PLL-PLL connection & Jitter specification, please refer to "Jitter specifications and characteristics chart" page.

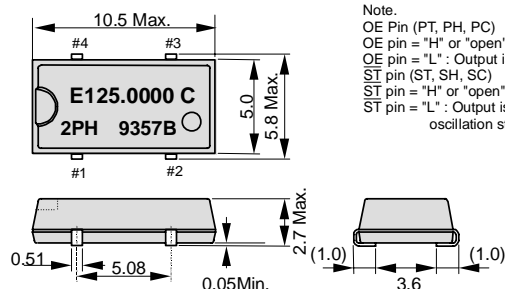
*3 PT / ST and PH / SH for "M" tolerance will be available up to 55 MHz.(Unavailable "M" tolerance of SG-8002JC)

Checking possible by the Frequency Checking Program.

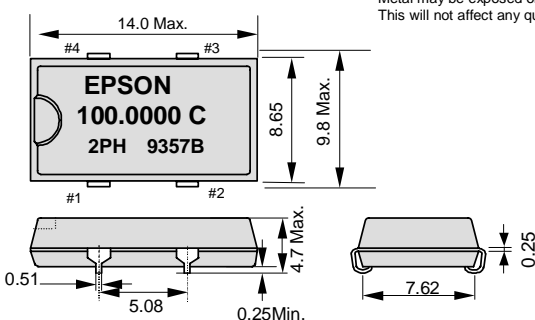
External dimensions

(Unit:mm)

SG-8002JC



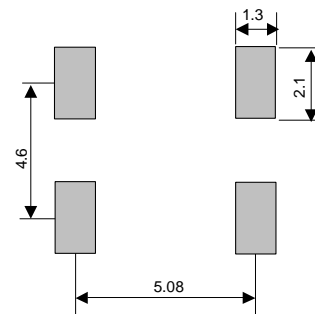
SG-8002JA



Footprint (Recommended)

(Unit:mm)

SG-8002JC



SG-8002JA

