



CRYSTAL OSCILLATOR HIGH-STABILITY

HG - 8002JA series

- Frequency range : 1 MHz to 125 MHz
- Supply voltage : 3.3 V / 5.0 V
- Frequency tolerance : $\pm 20 \times 10^{-6}$ / -20 °C to +70 °C
- Function : Output enable(OE) or Standby(\overline{ST})
- External dimensions : 14.0 x 9.8 x 4.7 t (mm) Max.
Package and pin compatible with SG-615.



Product Number (please contact us)
Q3514JAXxxxx00



Actual size



Specifications (characteristics)

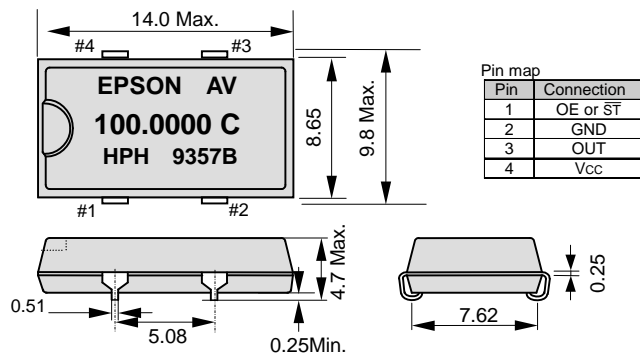
Item	Symbol	Specifications			Remarks
		PT / ST	PH / SH	PC / SC	
Output frequency range	f_0	1.000 MHz to 125.000 MHz			
Supply voltage	V _{cc}	5.0 V \pm 0.25 V		3.3 V \pm 0.165 V	
Temperature range	Storage temperature	-55 °C to +125 °C			Store as bare product after unpacking
	Operating temperature	-20 °C to +70 °C (-40 °C to +85 °C)		-40 °C to +85 °C	
Frequency tolerance	f _{tol}	AV: $\pm 20 \times 10^{-6}$, BV: $\pm 25 \times 10^{-6}$		-20 °C to +70 °C	
		CX: $\pm 30 \times 10^{-6}$		-40 °C to +85 °C *1	
Current consumption	I _{cc}	45 mA Max.		28 mA Max.	No load condition, Max. frequency
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	SYM	—		40 % to 60 %	CMOS load:50%V _{cc} level, Max. load condition TTL load: 1.4 V level, Max. load condition
		40 % to 60 %		—	
High output voltage	V _{OH}	V _{cc} -0.4 V Min.			IoH=-16 mA(PT,ST,PH,SH), -8 mA(PC,SC)
Low output voltage	V _{OL}	0.4 V Max.			IoL= 16 mA(PT,ST,PH,SH), 8 mA(PC,SC)
Output load condition (TTL)	L _{TTL}	2 TTL Max.		—	Max. frequency
Output load condition (CMOS)	L _{CMOS}	15 pF Max.			Max. supply voltage
Output enable / disable input voltage	V _{IH}	2.0 V Min.		70 % V _{cc} Min.	\overline{ST} terminal or OE terminal
	V _{IL}	0.8 V Max.		20 % V _{cc} Max.	
Rise time / Fall time	t _r / t _f	—			CMOS load: 20 % V _{cc} to 80 % V _{cc} level TTL load: 0.4 V to 2.4 V level
		4 ns Max.		3 ns Max.	
Start-up time	t _{st\overline{r}}	10 ms Max.			Time at minimum supply voltage to be 0 s
Frequency aging	f _{aging}	$\pm 2 \times 10^{-6}$ / year Max.			+25 °C, V _{cc} =5.0 V / 3.3 V (PC / SC)

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

*1 PT, ST and PH, SH for "CX" tolerance will be available up to 55 MHz.

External dimensions

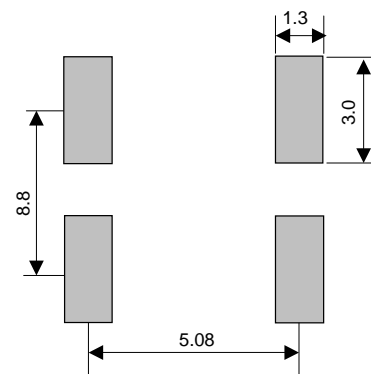
(Unit:mm)



Note.
 OE Pin (PT, PH, PC)
 OE pin = "H" or "open" : Specified frequency output.
 OE pin = "L" : Output is high impedance.
 \overline{ST} pin (ST, SH, SC)
 \overline{ST} pin - "H" or "open" : Specified frequency output.
 \overline{ST} pin - "L" : Output is low level (weak pull - down), oscillation stops.

Footprint (Recommended)

(Unit:mm)



To maintain stable operation, provide by-pass capacitor with more than 0.1 μ F at a location as near as possible to the power source terminal of the crystal products (between V_{cc} - GND).