

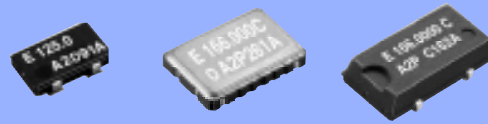
**CRYSTAL OSCILLATOR
SPREAD SPECTRUM**

SG - 9001LB / CA / JC series

- Frequency range : 10 MHz to 166 MHz
- Supply voltage : 3.3 V
- Function : Output enable(OE)
- Thickness : 1.15 mm Typ.(SG-9001LB)
1.40 mm Typ.(SG-9001CA)
- Range of spreading percentage is selectable by program
(Center or Down spread, 6 Values)



CA, LB
Type Only



Actual size



Specifications (characteristics)

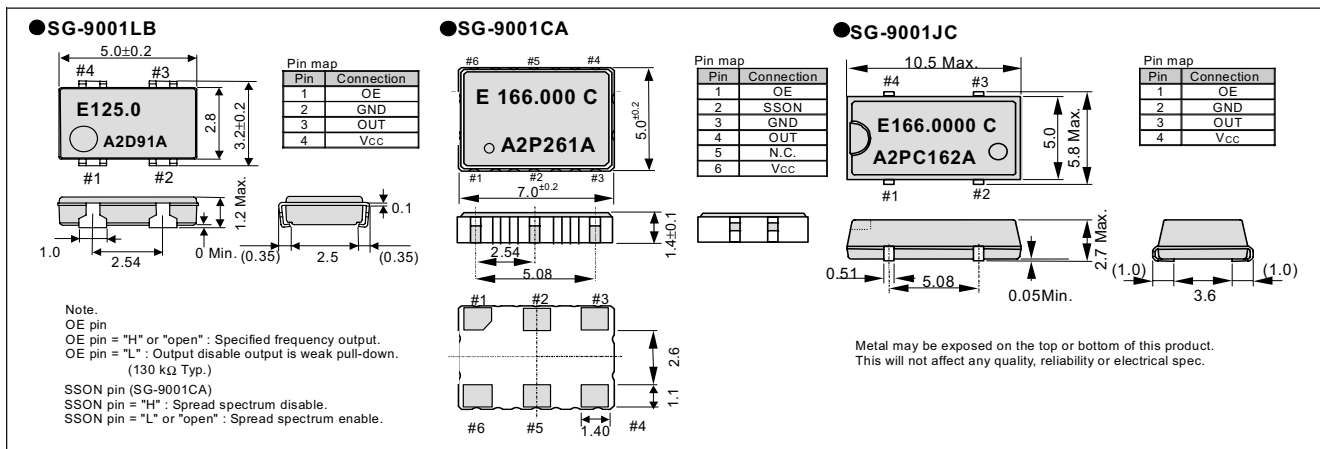
Item	Symbol	Specifications	Remarks
Output frequency range	f_0	10.000 MHz to 166.000 MHz	Please contact us for inquiries regarding available frequencies.
		10.000 MHz to 135.000 MHz	
Supply voltage	V_{cc}	3.3 V \pm 0.3 V	
Temperature range	Storage temperature	T_{stg}	-55 °C to +100 °C
	Operating temperature	T_{use}	-40 °C to +125 °C
Current consumption	I_{cc}	30 mA Max.	No load condition, $f_0 = 166$ MHz
Output disable current	I_{dis}	20 mA Max.	OE=GND, $f_0 = 166$ MHz
Symmetry	SYM	45 % to 55 %	CMOS load: 50 % V_{cc} level, $L_{CMOS}=15$ pF
High output voltage	V_{OH}	$V_{cc}-0.4$ V Min.	$I_{OH}=-8$ mA
Low output voltage	V_{OL}	0.4 V Max.	$I_{OL}=8$ mA
Output load condition	L_CMOS	15 pF Max.	
Output enable / disable input voltage	V_{IH}	70 % V_{cc} Min.	OE terminal
	V_{IL}	30 % V_{cc} Max.	OE terminal
Output rise and fall time	t_r / t_f	2.7 ns Max.	20 % V_{cc} to 80 % V_{cc} level, L_CMOS=15 pF.
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, First year

Spread Spectrum Specifications

Center Spread	Code	C02P	C05P	C07P	C10P	C15P	C20P
	Percentage		± 0.25 %	± 0.5 %	± 0.75 %	± 1.0 %	± 1.5 %
Down Spread	Code	D05P	D10P	D15P	D20P	D30P	D40P
	Percentage		-0.5 %	-1.0 %	-1.5 %	-2.0 %	-3.0 %

External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)

