

HIGH-FREQUENCY CRYSTAL OSCILLATOR WITH SPREAD SPECTRUM

SG-9001LB / CA / JC

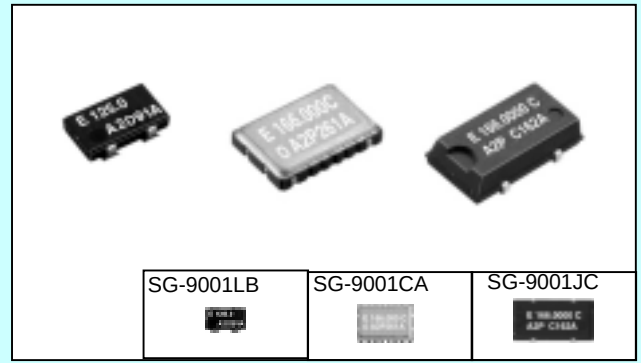
Product number (please contact us)

SG-9001LB : Q3331x2x0xxxx00

SG-9001CA : Q3331x0x0xxxx00

SG-9001JC : Q3331x1x1xxxx00

- Frequency range : 10 MHz to 166 MHz
- Operating voltage : 3.3 V
- Function : Output enable(OE)
- Thickness : 1.15 mm Typ.(SG-9001LB)
1.4 mm Typ.(SG-9001CA)
- Lead(Pb)-free : Comply with EU RoHS directive
(Lead free completely:SG-9001LB / CA)
- Range of spreading percentage is selectable by program
(Center or Down spread, 6 Values)



Actual size

■ Specifications (characteristics)

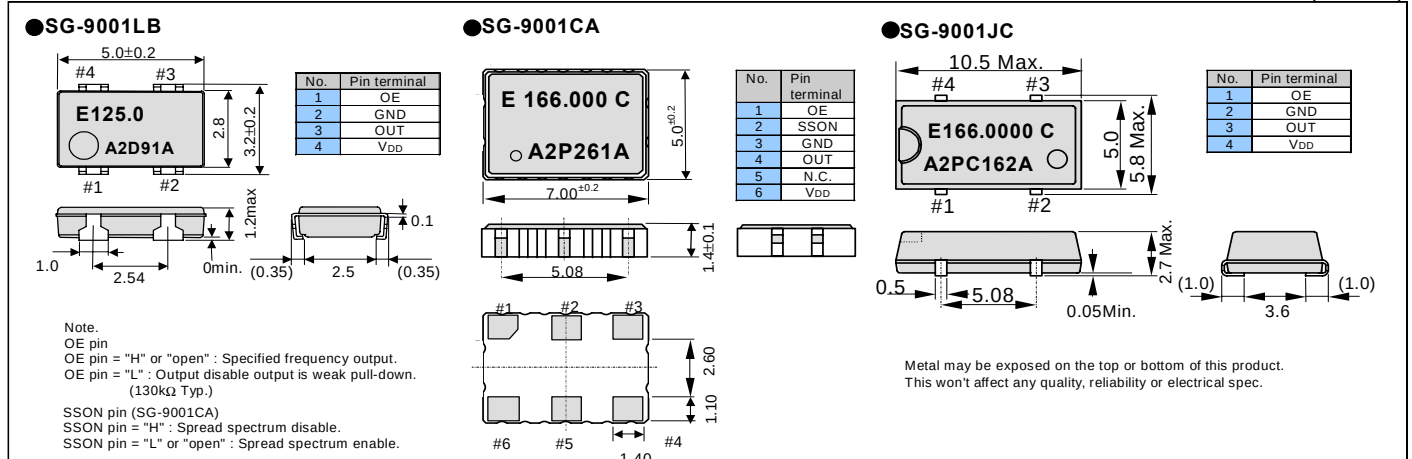
Item	Symbol	Specifications	Remarks
Output frequency range	f ₀	10.000 MHz to 166.000 MHz	SG-9001JC,CA Please contact us for inquiries about the available frequency.
		10.000 MHz to 135.000 MHz	
Operating voltage	V _{DD}	3.3 V±0.3 V	
Temperature range	Storage temperature	-55 °C to +100 °C	SG-9001JC Stored as bare product after unpacking.
	Operating temperature	-40 °C to +125 °C	
	T _{OPR}	-20 °C to +70 °C	
Current consumption	I _{OP}	30 mA Max.	No load condition, f ₀ = 166 MHz
Output disable current	I _{OE}	20 mA Max.	OE=GND, f ₀ = 166 MHz
Duty *1	tw/t	45 % to 55 %	50 % V _{DD} , C _L =15 pF
High output voltage	V _{OH}	V _{DD} -0.4 V Min.	I _{OH} =-8 mA
Low output voltage	V _{OL}	0.4 V Max.	I _{OL} = 8 mA
Output load condition	C _L	15 pF Max.	
Output enable / disable input voltage	V _{IH}	70 % V _{DD} Min.	OE terminal
	V _{IL}	30 % V _{DD} Max.	OE terminal
Output rise time *1	t _R / t _F	2.7 ns Max.	20 % V _{DD} to 80 % V _{DD} level, C _L =15 pF.
Oscillation start up time	t _{OSC}	10 ms Max.	Time at minimum operating voltage to be 0 s
Aging	f _a	±5 × 10 ⁻⁶ / year Max.	T _a =+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 %	±2.0 %
Down Spread	Code	D05P	D10P	D15P	D20P	D30P	D40P
	Percentage	-0.5 %	-1.0 %	-1.5 %	-2.0 %	-3.0 %	-4.0 %

■ External dimensions

(Unit:mm)



■ Recommended soldering pattern

(Unit:mm)

