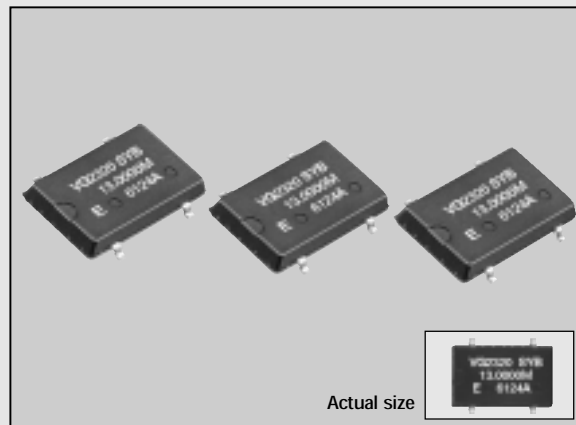


THIN SOP VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR

VG-2320SC series

- Thin package of 2mm thickness.
- High accuracy and high reliability due to trimmerless design.
- Excellent shock resistance and environmental capability.
- Low current consumption by the use of C-MOS IC.
- Operating voltage: 2.7 to 3.3V, $V_C=1.5V \pm 1.2V$
- Optimal as reference signal source for mobile communications equipment.



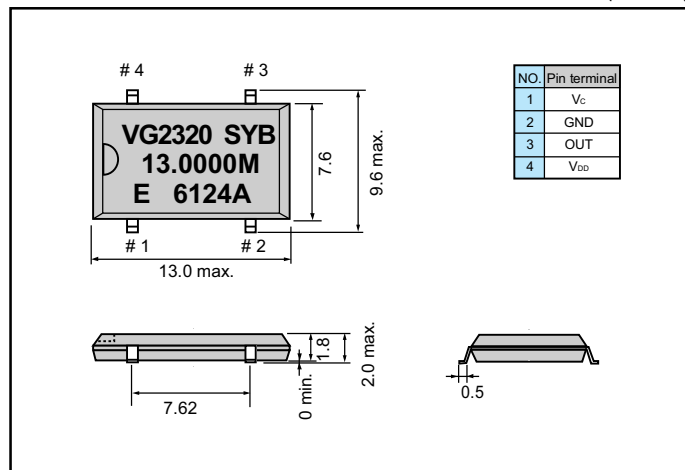
Specifications (characteristics)

Item	Symbol	VG-2320SC SYB	Remarks
		Specifications	
Output frequency range	f_0	12.0000 MHz to 20.0000 MHz	
Power source voltage	Max. supply voltage	V_{DD-GND}	-0.3V to +7.0V
	Operating voltage	V_{DD}	3.0V $\pm 0.3V$
Temperature range	Storage temperature	T_{STG}	-55°C to +125°C
	Operating temperature	T_{OPR}	-20°C to +75°C
Soldering condition	T_{SOL}	Twice at under 240°C within 10 sec.	
Frequency stability	$\Delta f/f_0$	± 15 ppm	
Current consumption	I_{OP}	2.5mA max.	No load condition
Pull range	Δf_c	± 20 ppm min.	$V_C=1.5 \pm 1.2V$
Control voltage sensitivity		19ppm/V min.	
Input resistance	Z_{IN}	10M Ω min.	DC Level
Frequency change polarity		Positive polarity	$V_C=0.3$ to 2.7V
Duty	t_w/t	40% to 60%	GND Level
Output load condition (fan out)	R_L/C_L	2k Ω /10pF	
Output level	V_{PP}	1.0V min.	
Output signal harmonic ratio		-5dBc max.	
Phase noise		-120dBc/Hz max.	Offset: 1kHz
Oscillation start up time	t_{OSC}	4ms. max.	Time at $V_{DD}=2.7V$ to be 0 sec.
Aging	f_a	± 1 ppm max.	$T_a=25^\circ C, V_{DD}=3V$
Shock resistance	S.R.	± 1 ppm max.	Three drops on a hard board from 75 cm or excitation test with 3000G x 0.3ms x 1/2sine wave in 3 directions

There are some cases that a parts of the case of quartz resonator expose on the surface of the molding material.

External dimensions

(Unit: mm)



Recommended soldering pattern

(Unit: mm)

