

HIGH-STABILITY HIGH-FREQUENCY OSCILLATOR

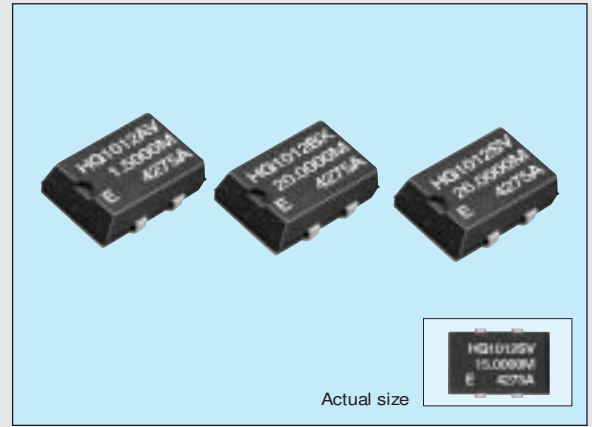
# HG-1012JA/2012JA

Product number (please refer to page 2)

**Q3511JA0xxxxxx00**

**Q3512JA0xxxxxx00**

- Cylindrical AT crystal unit built-in, thus assuring high reliability.
- Excellent heat resistance.
- Low current consumption.

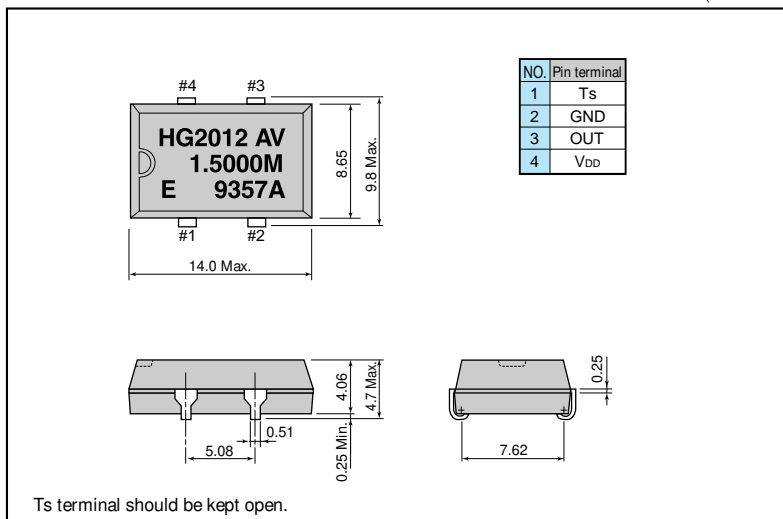


## Specifications (characteristics)

Item	Symbol	Specifications		Remarks
		HG-1012JA	HG-2012JA	
Output frequency range	$f_0$	1.5000 MHz to 28.63636 MHz		$V_{DD}=4.75$ V to 5.25 V
Power source voltage	Max. supply voltage	$V_{DD-GND}$		-0.5 V to +7.0 V
	Operating voltage	$V_{DD}$		5.0 V $\pm 0.25$ V
Temperature range	Storage temperature	$T_{STG}$		-55 °C to +125 °C
	Operable temperature	$T_{OPR}$		-40 °C to +85 °C
Frequency stability	$\Delta f/f_0$	AV: $\pm 20 \times 10^{-6}$ , BV: $\pm 25 \times 10^{-6}$	SV: $\pm 15 \times 10^{-6}$ , AV: $\pm 20 \times 10^{-6}$	$T_a = -20$ °C to +70 °C
		BX: $\pm 25 \times 10^{-6}$ , CX: $\pm 30 \times 10^{-6}$	BX: $\pm 25 \times 10^{-6}$	$T_a = -40$ °C to +85 °C
Current consumption	$I_{OP}$	10 mA Max.		No load condition
Duty	$t_w/t$	40 % to 60 %		1/2 $V_{DD}$ level
High output voltage	$V_{OH}$	$V_{DD}-0.4$ V Min.		$I_{OH} = -0.8$ mA
Low output voltage	$V_{OL}$	0.4 V Max.		$I_{OL} = 3.2$ mA
Output load condition	$C_L$	15 pF Max.		
Output rise time	$t_{TLH}$	8 ns Max.		20 % $\rightarrow$ 80 % $V_{DD}$ level
Output fall time	$t_{THL}$	8 ns Max.		80 % $\rightarrow$ 20 % $V_{DD}$ level
Oscillation start up time	$t_{OSC}$	4 ms Max.		Time at 4.75 V to be 0 s
Aging	$f_a$	$\pm 5 \times 10^{-6}$ /year Max.	$\pm 2 \times 10^{-6}$ /year Max.	$T_a = +25$ °C, first year
Shock resistance	S.R.	$\pm 10 \times 10^6$ Max.	$\pm 2 \times 10^6$ Max.	Three drops on a hard wooden board from 750 mm or excitation test with 29400 m/s <sup>2</sup> x 0.3 ms x 1/2sine wave in 3 directions

## External dimensions

(Unit: mm)



## Recommended soldering pattern

(Unit: mm)

