

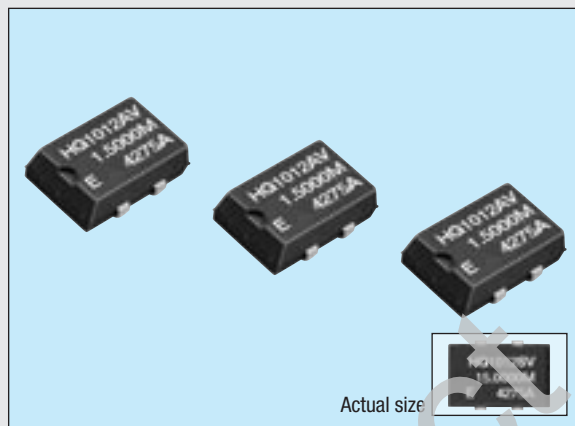
HIGH-STABILITY HIGH-FREQUENCY OSCILLATOR

# HG-1012JA / 2012JA

Product number (please refer to page 3)

**Q3511JA0xxxxx00**  
**Q3512JA0xxxxx00**

- Cylindrical AT crystal unit built-in, thus assuring high reliability.
- Excellent heat resistance.
- Low current consumption.
- Available for lead (Pb)-free soldering.
- Available for lead (Pb)-free terminal.

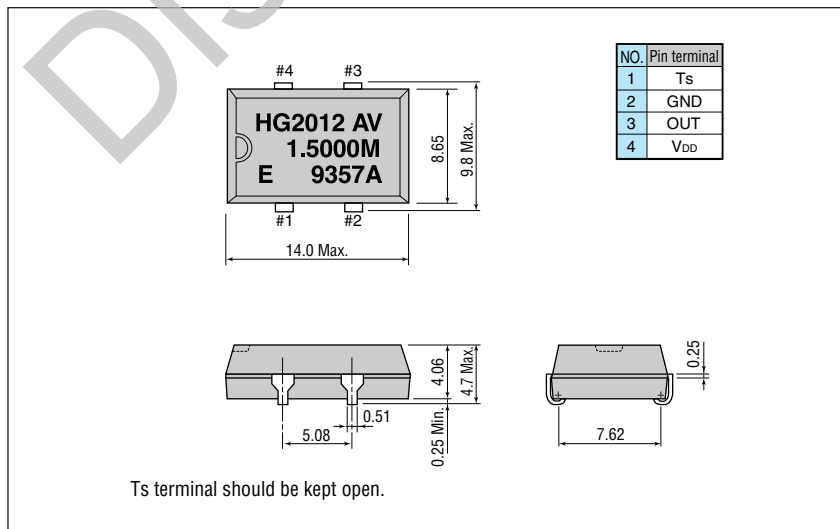


## Specifications (characteristics)

Item	Symbol	Specifications		Remarks
		HG-1012JA	HG-2012JA	
Output frequency range	f <sub>o</sub>	1.5000 MHz to 28.63636 MHz		V <sub>DD</sub> = 4.75 V to 5.25 V
Power source voltage	Max. supply voltage	V <sub>DD</sub> -GND		-0.5 V to +7.0 V
	Operating voltage	V <sub>DD</sub>		5.0 V ±0.25 V
Temperature range	Storage temperature	T <sub>STG</sub>		-55 °C to +125 °C
	Operating temperature	T <sub>OPR</sub>		-40 °C to +85 °C
Frequency stability	Δf/f <sub>o</sub>	AV: ±20 x 10 <sup>-6</sup> , BV: ±25 x 10 <sup>-6</sup>	SV: ±15 x 10 <sup>-6</sup> , AV: ±20 x 10 <sup>-6</sup>	T <sub>a</sub> = -20 °C to +70 °C
		BX: ±25 x 10 <sup>-6</sup> , CX: ±30 x 10 <sup>-6</sup>	BX: ±25 x 10 <sup>-6</sup>	T <sub>a</sub> = -40 °C to +85 °C
Current consumption	I <sub>OP</sub>	10 mA Max.		No load condition
Duty	t <sub>w</sub> / t	40 % to 60 %		1/2 V <sub>DD</sub> level
High output voltage	V <sub>OH</sub>	V <sub>DD</sub> -0.4 V Min.		I <sub>OH</sub> = -0.8 mA
Low output voltage	V <sub>OL</sub>	0.4 V Max.		I <sub>OL</sub> = 3.2 mA
Output load condition	C <sub>L</sub>	15 pF		
Output rise time	t <sub>r</sub>	8 ns Max.		20 % → 80 % V <sub>DD</sub> level
Output fall time	t <sub>f</sub>	8 ns Max.		80 % → 20 % V <sub>DD</sub> level
Oscillation start up time	t <sub>OSC</sub>	4 ms Max.		Time at 4.75 V to be 0 s
Aging	f <sub>a</sub>	±5 x 10 <sup>-9</sup> / year Max.	±2 x 10 <sup>-6</sup> / year Max.	T <sub>a</sub> = +25 °C, first year
Shock resistance	S.R.	±10 x 10 <sup>-6</sup> Max.	±2 x 10 <sup>-6</sup> Max.	Three drops on a hard 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)

