

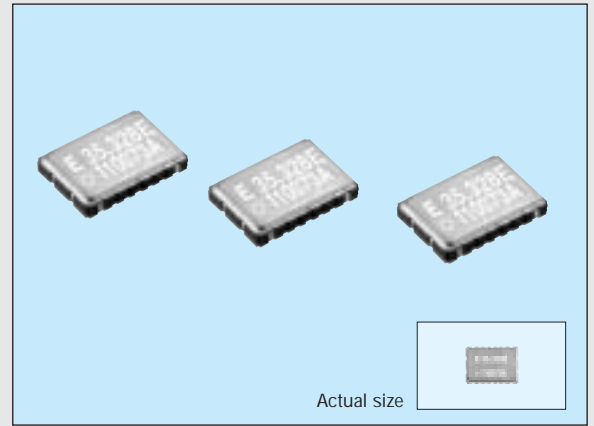
VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR

VG-1201CA

Products number (please refer to page 2)

Q3603CA0xxxxx00

- Reflowable and high density mounting type SMD.
- Well designed internal construction realizes as good as general - purpose ICs heat resistance performance.
- Use of C-MOS IC assures low current consumption.
- Excellent shock resistance and environmental capability.
- Supply voltage: 5.0 V(**H), 3.3 V(**C)
- Output enable function(OE) can be used for low current consumption applications.



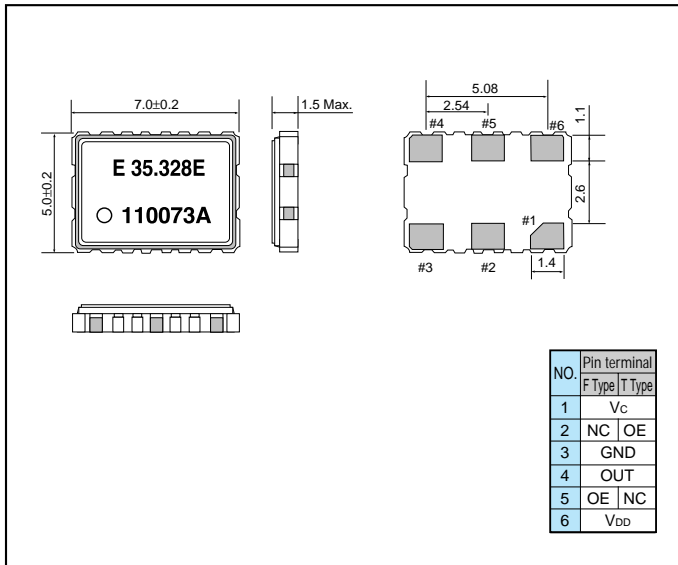
Specifications (characteristics)

Item	Symbol	Specifications		Remarks
		ANH / AKH / BNH / BKH	ANC / AKC / BNC / BKC	
Output frequency range	f_0	1.0000 MHz to 60.0000 MHz		
Power source voltage	Max. supply voltage	V_{DD-GND} -0.5 V to +7.0 V		
	Operating voltage	V_{DD}	H : 5.0 V ± 0.5 V C : 3.3 V ± 0.3 V	
Temperature range	Storage temperature	T_{STG} -40 °C to +125 °C		Stored as bare product after unpacking
	Operating temperature	T_{OPR} As per below table		
Frequency stability	$\Delta f/f_0$	As per below table		
Current consumption	I_{OP}	30 mA Max.	25 mA Max.	No load condition
Output disable current	I_{OE}	25 mA Max.	20 mA Max.	OE=GND
Pull range	Δf_c	As per below table		$V_C=2.5\text{ V} \pm 2.0\text{ V} (**H), 1.65 \pm 1.50\text{ V} (**C)$
Modulation Characteristics	BW	± 20 kHz Min.		± 3 dB at 1kHz
Input resistance	Z_{IN}	5 M Ω Min.		DC Level
Frequency change polarity		Positive polarity		$V_C=0.5\text{ V to }4.5\text{ V} (**H), 0.15\text{ V to }3.15\text{ V} (**C)$
Duty	tw/t	40 % to 60 %		1/2 V_{DD} level
Output voltage	V_{OH}	$V_{DD} - 0.4$ V Min.		$I_{OH} = -4$ mA
	V_{OL}	0.4 V Max.		$I_{OL} = 4$ mA
Output load condition (fan out)	N/CL	15 pF Max.		CMOS load
Output enable / disable input voltage	V_{IH}	0.7 V_{DD} Min.		OE terminal
	V_{IL}	0.3 V_{DD} Max.		
Output rise time	t_{TLH}	4 ns Max.		CMOS load: 20 % \rightarrow 80 % V_{DD}
Output fall time	t_{THL}	4 ns Max.		CMOS load: 80 % \rightarrow 20 % V_{DD}
Oscillation start up time	t_{OSC}	10 ms Max.		Time at 0.9 V_{DD} to be 0s
Aging	fa	$\pm 10 \times 10^{-6}$ Max.		$T_a=+25$ °C, 10 year

Note: Please contact us for inquiries about operating temperature, frequency stability, pull range.

External dimensions

(Unit: mm)



Stability / Temperature range

	Stability	Temperature range
A	$\pm 20 \times 10^{-6}$	-20 °C to +70 °C
B	$\pm 25 \times 10^{-6}$	-40 °C to +85 °C

Pull range

	Pull range	Output frequency range
K	$\pm 75 \times 10^{-6}$ Min.	41 MHz $\leq f_0 \leq$ 60 MHz
N	$\pm 100 \times 10^{-6}$ Min.	1 MHz $\leq f_0 <$ 41 MHz

Recommended soldering pattern

(Unit: mm)

