

VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO) WIDE PULL RANGE

VG-4231CA

- Frequency range : 1 MHz to 60 MHz
- Supply voltage : 3.3 V (DRC, GRC)
5.0 V (DRH, GRH)
- Frequency control range: $\pm 130 \times 10^{-6}$
- External dimensions : 7.0 x 5.0 x 1.4 t (mm) Typ.



Product Number (please contact us)
Q3614CA00xxxx00



Actual size



Specifications (characteristics)

Item	Symbol	Specifications		Remarks
		DRH / GRH	DRC / GRC	
Output frequency range	f_0	1.000 MHz to 60.000 MHz		Please contact us for inquiries regarding available frequencies.
Supply voltage	V_{cc}	H:5.0 V ± 0.5 V	C:3.3 V ± 0.3 V	
Temperature range	Storage temperature	-40 °C to +125 °C		Store as bare product after unpacking
	Operating temperature	As per below table		
Frequency tolerance	f_{tol}	As per below table		$V_c=2.5$ V(**H), $V_c=1.65$ V(**C)
Current consumption	I_{cc}	20 mA Max.	10 mA Max.	No load condition
Disable current	I_{dis}	15 mA Max.	7 mA Max.	OE=GND
Frequency control range	f_{cont}	$R: \pm 130 \times 10^{-6}$		$V_c=2.5$ V ± 2.0 V(**H) $V_c=1.65$ V ± 1.5 V(**C)
Absolute pull range *1	APR	D: $\pm 80 \times 10^{-6}$ Min., G: $\pm 65 \times 10^{-6}$ Min.		
Modulation characteristics	BW	15 kHz Min.		± 3 dB (at 1 kHz)
	Rin	50 k Ω Min.		
Input resistance			10 M Ω Min.	Connection F or T Type Connection M or Z Type
				DC level
Frequency change polarity	—	Positive polarity		$V_c=0.5$ V to 4.5 V(**H) , 0.15 V to 3.15 V(**C)
Symmetry	SYM	40 % to 60 %		CMOS load: 50 % V_{cc} level
High output voltage	V_{OH}	$V_{cc}-0.4$ V Min.		$I_{OH}=-0.8$ mA(**C), $I_{OH}=-4$ mA(**H)
Low output voltage	V_{OL}	0.4 V Max.		$I_{OL}=3.2$ mA(**C), $I_{OL}=4$ mA(**H)
Output load condition (CMOS)	L_CMOS	15 pF Max.		CMOS load
Output enable / disable input voltage	V_{IH}	70 % V_{cc} Min.		OE Terminal
	V_{IL}	30 % V_{cc} Max.		
Rise time and Fall time	t_r / t_f	4 ns Max.		CMOS load: 20 % V_{cc} to 80 % V_{cc} level
Start-up time	t_{str}	10 ms Max.		Time at 90 % V_{cc} to be 0 s
Frequency aging	f_{aging}	$\pm 10 \times 10^{-6}$ Max. *2		+25 °C, 10 years

*1 Absolute pull range = Frequency control range- (Frequency tolerance + 10 years Aging + Free fall + Vibration)

*2 50 MHz < f_0 \leq 60 MHz : $\pm 15 \times 10^{-6}$ Max.

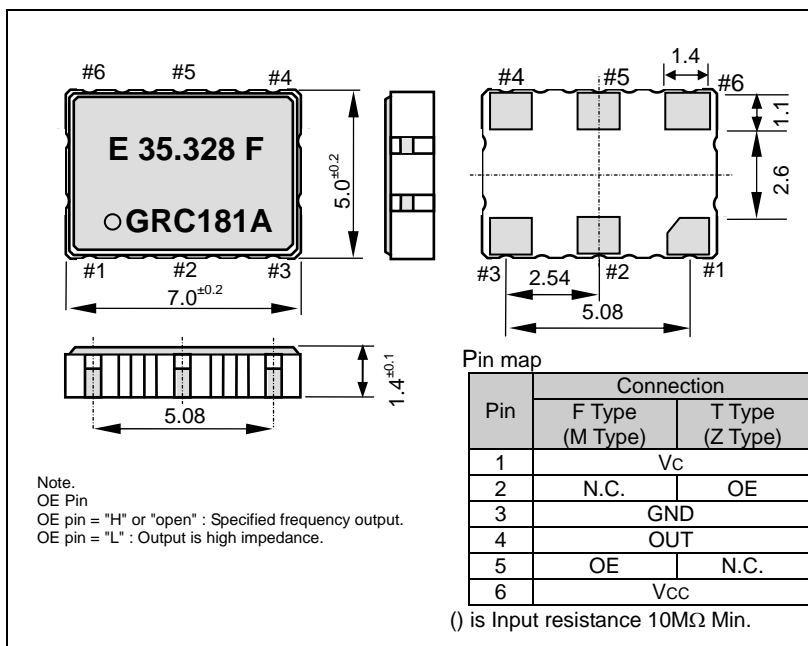
* Please keep V_c pin open or ground while powering up V_{cc} .

Frequency tolerance / Temperature range

	Frequency tolerance	Temperature range
DRC / DRH	$\pm 35 \times 10^{-6}$	-20 °C to +70 °C
GRC / GRH	$\pm 50 \times 10^{-6}$	-40 °C to +85 °C

External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)

