



CRYSTAL OSCILLATOR

VOLTAGE-CONTROLLED SAW OSCILLATOR (VCISO)

Differential Output (LV-PECL)

EV1409EAN

NEW
Features

- Low phase jitter : 22fs typ. *3
- Frequency range : 1000 MHz to 3000 MHz
- Supply voltage : 3.3 V
- Absolute pull range : $\pm 50 \times 10^{-6}$ Min.
- External dimensions: 14.0 × 9.0 × 2.6(t) mm (Low Profile)
- Output : LV-PECL

Application

OTN(40GbE,100GbE,400GbE), High Speed ADCs and DACs, Test Instrument.



Product Number (please contact us)
LV-PECL: X1M000391xxxxxx



Actual size



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks	
Output frequency range	fo	1000 MHz to 3000 MHz	Please contact us about available frequencies.	
Supply voltage	Vcc	3.3 V ± 0.165 V		
Storage temperature	T_stg	-45 °C to +90 °C	Storage as single product.	
Operating temperature	T_use	-10 °C to +85 °C		
Frequency tolerance *1	f_tol	-70×10^{-6} to $+120 \times 10^{-6}$		
Current consumption	Icc	90 mA Max.		
Absolute pull range *2	APR	Standard Gain Type : $\pm 80 \times 10^{-6}$ Min. Low Gain Type : $\pm 50 \times 10^{-6}$ Min.	Vc=1.65 \pm 1.65 V	
Pull range	—	Standard Gain Type :-200 $\times 10^{-6}$ Max.(Vc=0V), +150 $\times 10^{-6}$ Min.(Vc=3.3V) Low Gain Type :-170 $\times 10^{-6}$ Max.(Vc=0V), +120 $\times 10^{-6}$ Min.(Vc=3.3V)	Vc=1.65 \pm 1.65 V	
Input resistance	Rin	100 k Ω Min.	DC level	
Frequency change polarity	—	Positive slope		
Symmetry	SYM	40 % to 60 %	Vcc -1.425 V, Vc = 1/2 Vcc	
Output voltage	VOH	Vcc -1.3 V Min.	1000MHz<fo \leq 2000 MHz	
		Vcc -1.4 V Min.	2000MHz<fo \leq 3000 MHz	
	VOL	Vcc -1.65 V Max.	1000MHz<fo \leq 2000 MHz	
		Vcc -1.6 V Max.	2000MHz<fo \leq 2500 MHz	
Output load condition	L_ECL	50 Ω	Terminated to Vcc-2.0V	
Rise time / Fall time	tr / tf	0.5 ns Max.	1000 MHz \leq fo \leq 1700 MHz	Between 20 % and 80 % of (VOH-VOL)
		0.3 ns Max.	1700 MHz < fo \leq 3000 MHz	
Start-up time	t_str	10 ms Max.	Time at 90 %Vcc to be 0 s	
Phase Jitter	tPJ	100 fs Max.	1000 MHz \leq fo \leq 1700 MHz	Offset frequency: 12 kHz to 20 MHz
		22fs typ. *3 50 fs Max.	1700 MHz < fo \leq 3000 MHz	

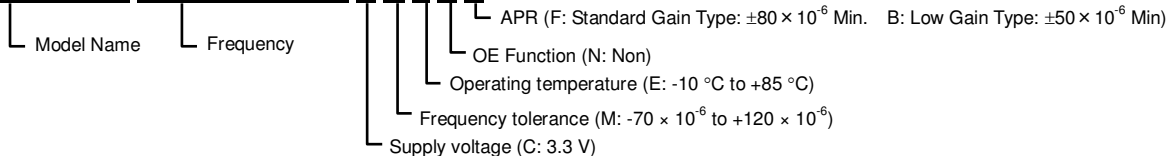
*1 Frequency tolerance includes initial frequency tolerance, temperature variation, supply voltage variation, reflow drift, and aging (+25°C, 10 years).

*2 Absolute pull range (APR) = Frequency control range - Frequency tolerance

*3 Output frequency is at 1986.819MHz

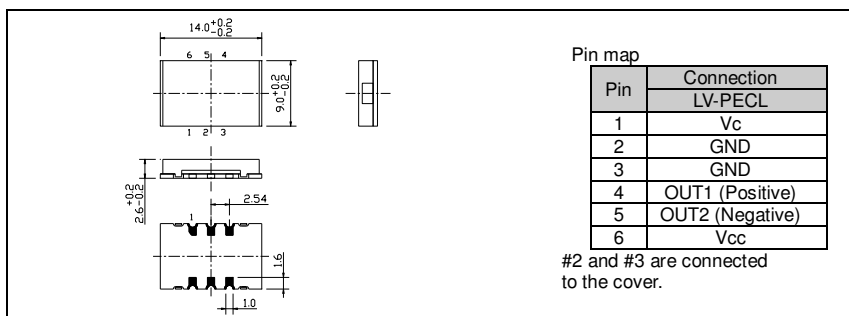
Part number

EV1409EAN 1986.819000MHz C M E H B



External dimensions

(Unit :mm)



Footprint (Recommended)

(Unit :mm)

