VOLTAGE -CONTROLLED SAW OSCILLATOR (VCSO)

LOW-JITTER, LOW PHASE NOISE

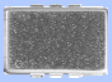
EV - 9100JG

- Frequency range : 800 MHz to 2500 MHz
- Supply voltage : 3.3 V
- Absolute pull range : $\pm 50 \times 10^{-6}$
- External dimensions: 13.9 × 9.8 × 4.7 mm (t: Max.)
- Output : LV-PECL or Sine Wave

RoHS Compliant

Product Number (please contact us)
LV-PECL: X1M000241xxxxxx
Sine wave: X1M000261xxxxxx

Actual size



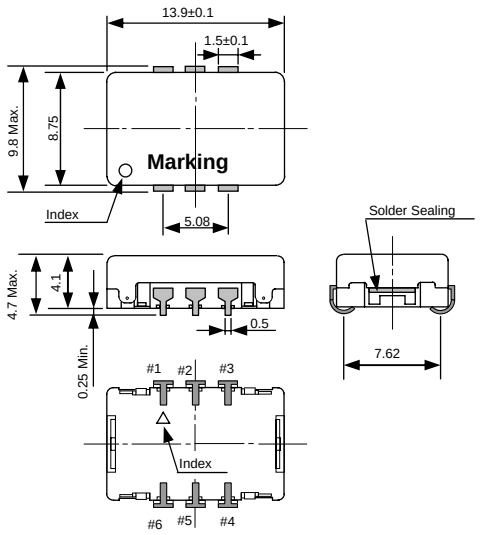
Specifications (characteristics)

Item	Symbol	LV-PECL	Sine wave	Conditions / Remarks	
		CPGMA/ CPGVA/ CPGUA	CSGMA/ CSGVA/ CSGUA		
Output frequency range	fo	800 MHz to 2500 MHz		Please contact us for inquiries regarding available frequencies.	
Supply voltage	Vcc	3.3 V ±0.165 V			
Storage temperature	T_stg	-45 °C to +90 °C		Store as bare product.	
Operating temperature	T_use	As per blow table.			
Frequency tolerance *1	f_tol	-100×10^{-6} to $+150 \times 10^{-6}$			
Current consumption	Icc	100 mA Max.			
Absolute pull range *2	APR	$\pm 50 \times 10^{-6}$ Min.		Vc = 0 V to Vcc	
Input resistance	Rin	100 kΩ Min.		DC level	
Frequency change polarity	—	Positive slope			
Symmetry	SYM	40 % to 60 %	—	Vcc -1.45 V, Vc = 1/2 Vcc	
Output voltage	VOH	Vcc -1.3 V Min.	—	fo ≤ 2.0 GHz	
		Vcc -1.4 V Min.		fo > 2.0 GHz	
	VOL	Vcc -1.65 V Max.	—	fo ≤ 2.0 GHz	
		Vcc -1.6 V Max.		fo > 2.0 GHz	
Output level	—	—	0 dBm Min.		
Output load condition	L_ECL	50 Ω	—	Terminated to Vcc-2.0V	
	Load_R	—	50 Ω	Terminated to GND	
Rise time / Fall time	tr / tf	0.5 ns Max.	—	Between 20 % and 80 % of (VOH-VOL)	
Start-up time	t_str	10 ms Max.		Time at 90 %Vcc to be 0 s	
Phase Jitter	tPJ	0.05 ps Max.	0.03 ps Max.	1.7 G ≤ fo ≤ 2.0 GHz	Offset frequency:
		0.1 ps Max.	0.05 ps Max.	800 M ≤ fo < 1.7 GHz	12 kHz to 20 MHz
				2.0 G < fo ≤ 2.5 GHz	50 kHz to 100 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

Output		P: LV-PECL	S: Sine wave
Operating temperature	M: -40 °C to +85 °C	CPGMA	CSGMA
	V: -20 °C to +85 °C	CPGVA	CSGVA
	U: -10 °C to +85 °C	CPGUA	CSGUA

External dimensions (Unit :mm)

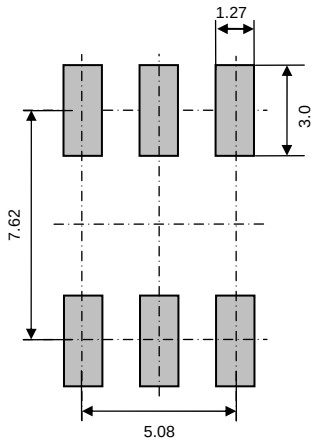


Pin map

Pin	Connection	
	LV-PECL	Sine Wave
1	Vc	
2	GND	
3	GND	
4	OUT1 (Positive)	OUT
5	OUT2 (Negative)	N.C.
6	Vcc	

#2 and #3 are connected to the cover.

Footprint (Recommended) (Unit :mm)



PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.

WORKING FOR HIGH QUALITY

In order provide high quality and reliable products and services than meet customer needs,

Seiko Epson made early efforts towards obtaining ISO9000 series certification and has acquired ISO9001 for all business establishments in Japan and abroad. We have also acquired ISO/TS 16949 certification that is requested strongly by major automotive manufacturers as standard.

ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

►Explanation of the mark that are using it for the catalog

Pb Free	►Pb free.
RoHS Compliant	►Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
For Automotive	►The products have been designed for high reliability applications such as Automotive.

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