

VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO)
OUTPUT : LV-PECL



Product Number
VG3225EFN X1G005361xxxx00
VG5032EFN X1G005471xxxx00
VG7050EFN X1G005491xxxx00

VG3225EFN
VG5032EFN
VG7050EFN



- Frequency range : 25 MHz to 250 MHz
- Supply voltage : 3.3 V
- Absolute pull range : 20×10^{-6} Min. / 50×10^{-6} Min.
- Operating temperature: -40 °C to +85 °C / -40 °C to +105 °C
- Function : Output enable (OE)
- Output : LV-PECL

Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Output frequency range	f _o	25 MHz to 250 MHz	Please contact us for inquiries regarding available frequencies.
Supply voltage	V _{CC}	3.3 V ± 0.165 V	
Control voltage*	V _C	1.65 V ± 1.65 V	
Storage temperature	T _{stg}	-55 °C to +125 °C	Store as bare product.
Operating temperature	T _{use}	G: -40 °C to +85 °C, H: -40 °C to +105 °C	
Frequency tolerance	f _{tol}	±50 × 10 ⁻⁶ Max.	V _C =1.65 V Includes initial frequency tolerance, temperature variation, supply voltage change and 10 years aging at +25 °C.
Absolute Pull range *1	APR	±50 × 10 ⁻⁶ Min.	25 MHz to 42.5 MHz, 50 MHz to 85 MHz, 100 MHz to 170 MHz
		±20 × 10 ⁻⁶ Min.	25 MHz to 250 MHz
Current consumption	I _{CC}	60 mA Max.	OE= V _{CC} , with output load
Input resistance	R _{in}	10 MΩ Min.	DC level
Frequency change polarity Symmetry	- SYM	Positive slope 45 % to 55 %	V _C = 0 V to 3.3 V At outputs crossing point
Output voltage	V _{OH}	V _{CC} -1.1 V Min.	DC characteristics
	V _{OL}	V _{CC} -1.5 V Max.	
Output load condition	L _{ECL}	50 Ω	Terminated to V _{CC} - 2.0V
Input voltage	V _{IH}	70 % V _{CC} Min.	OE terminal
	V _{IL}	30 % V _{CC} Max.	
Rise/Fall times	t _r / t _f	0.5 ns Max.	20 % to 80 % (V _{OH} - V _{OL})
Oscillation start up time	t _{str}	10 ms Max.	Time at minimum supply voltage to be 0 s
Phase Jitter	t _{pj}	120 fs Max. (122.88 MHz)	Offset Frequency 12 kHz to 20 MHz
		80 fs Max. (245.76 MHz)	

*1 Absolute pull range = Frequency control range- Frequency tolerance

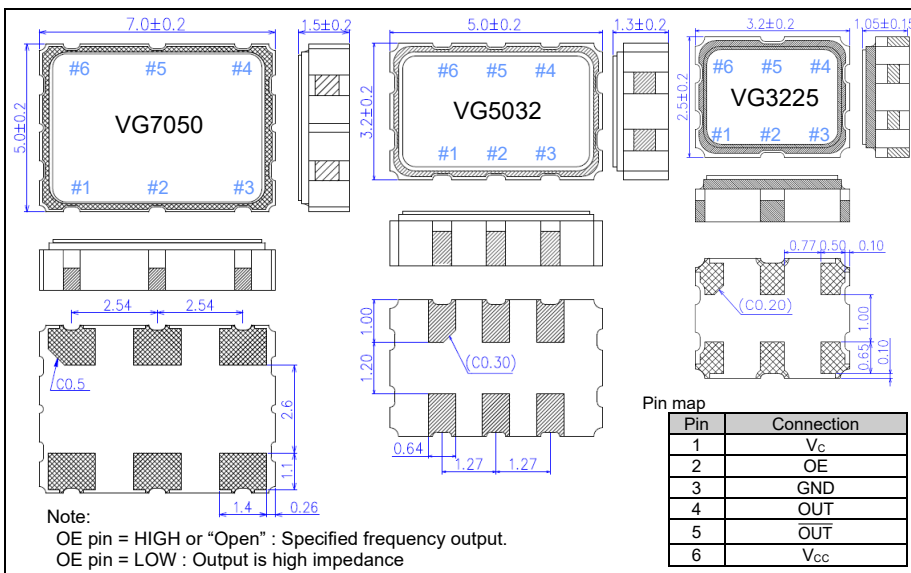
* Please keep V_C pin open or ground while powering up V_{CC}.

Product name **VG3225 EFN 122.880000 MHz C J G H B A**
 (Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

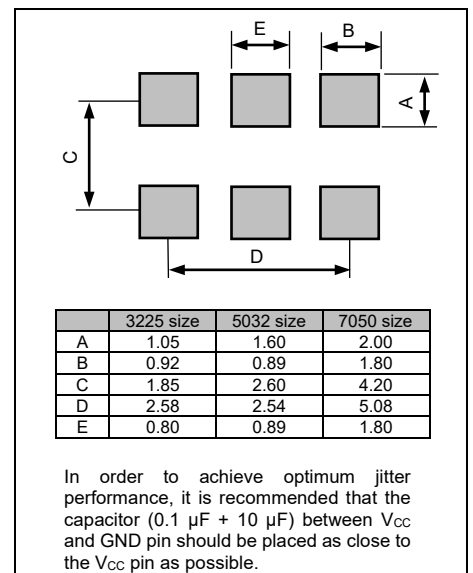
- ① Model ② Output (E: LV-PECL) ③ Frequency ④ Supply voltage (C: 3.3 V Typ.)
- ⑤ Frequency tolerance (J: ±50 × 10⁻⁶ Max.) ⑥ Operating temperature (G: -40 °C to +85 °C, H: -40 °C to +105 °C)
- ⑦ OE Function (H: Active High) ⑧ Absolute Pull Range (B: ±50 × 10⁻⁶ Min.) ⑨ Output Standby Type (A: High-Z)

External dimensions

(Unit:mm)



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 IATF 16949 certification that is requested strongly by major automotive manufacturers as standard.

IATF 16949 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.
	► 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.)
	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

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