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Общество с ограниченной ответственностью

«Научно-производственное предприятие «Техно-ПАРК»

(ООО «НПП «Техно-ПАРК»)

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Технические характеристики генератора VG7050VFN

Производитель: Epson

Поставщик: ООО «НПП «Техно-ПАРК»

Научно-производственное предприятие ООО «НПП «Техно-ПАРК» разрабатывает и поставляет полосно-пропускающие радиочастотные фильтры на поверхностных акустических волнах (ПАВ) и устройства на их основе.

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



Product Number
 VG3225EFN X1G005361xxxx00
 VG5032EFN X1G005471xxxx00
 VG7050EFN X1G005491xxxx00
 VG3225VFN X1G005461xxxx00
 VG5032VFN X1G005481xxxx00
 VG7050VFN X1G005501xxxx00

VG3225 / 5032 / 7050EFN
 VG3225 / 5032 / 7050VFN

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

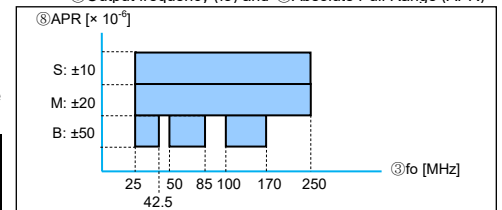


Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Remarks	
		LV-PECL VG3225EFN / VG5032EFN / VG7050EFN	LVDS VG3225VFN / VG5032VFN / VG7050VFN		
Output frequency range	fo	25 MHz to 250 MHz		Please contact us for available frequencies, and frequency inquiries above 250 MHz.	
Supply voltage	V _{CC}	C: 3.3 V \pm 0.165 V			
Control voltage	V _c	1.65 V \pm 1.65 V			
Storage temperature	T _{stg}	-55 °C to +125 °C			
Operating temperature	T _{use}	G: -40 °C to +85 °C, H: -40 °C to +105 °C			
Frequency tolerance	f _{tol}	J: $\pm 50 \times 10^{-6}$ Max.		Includes initial frequency tolerance, temperature variation, supply voltage change and 10 years aging (+25 °C) at V _c = 1.65 V	
Absolute Pull range *1	APR	B: $\pm 50 \times 10^{-6}$ Min.			25 MHz \leq fo \leq 42.5 MHz, 50 MHz \leq fo \leq 85 MHz, 100 MHz \leq fo \leq 170 MHz
		M: $\pm 20 \times 10^{-6}$ Min.			Full frequency range
		S: $\pm 10 \times 10^{-6}$ Min.		Full frequency range	
Current consumption	I _{cc}	60 mA Max.	25 mA Max.	OE = V _{CC} , L ECL = 50 Ω or L LVDS = 100 Ω	
Disable current	I _{dis}	25 mA Max.	15 mA Max.	OE = GND	
Input impedance	Z _{in}	10 M Ω Min.		DC level	
Frequency change polarity	-	Positive slope		V _c = 0 V to 3.3 V	
Symmetry	SYM	45 % to 55 %		At output crossing point	
Output voltage (LV-PECL)	V _{OH}	V _{CC} - 1.1 V Min.	-	DC characteristics	
	V _{OL}	V _{CC} - 1.5 V Max.	-		
Output voltage (LVDS)	V _{OD}	-	250 mV to 450 mV	Differential output voltage, V _{OD1} , V _{OD2}	
	V _{OS}	-	1.15 V to 1.35 V		DC characteristics
ECL load condition	L ECL	50 Ω	-	Terminated to V _{CC} - 2.0 V	
LVDS load condition	L LVDS	-	100 Ω	Connected between OUT to $\overline{\text{OUT}}$	
Input voltage	V _{IH}	70 % V _{CC} Min.		OE terminal	
	V _{IL}	30 % V _{CC} Max.			
Rise/Fall times	tr / tf	0.5 ns Max.	0.3 ns Max.	LV-PECL: Between 20 % and 80 % of (V _{OH} - V _{OL}) LVDS: Between 20 % and 80 % of Differential Output peak to peak voltage	
Startup time	t _{str}	10 ms Max.		Time at minimum supply voltage to be 0 s	
Phase Jitter	t _{PJ}	120 fs Max.	160 fs Max.	fo = 122.88 MHz	
		80 fs Max.	80 fs Max.	fo = 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}.

Figure 1 Available combination of
 ③ Output frequency (fo) and ⑧ Absolute Pull Range (APR)



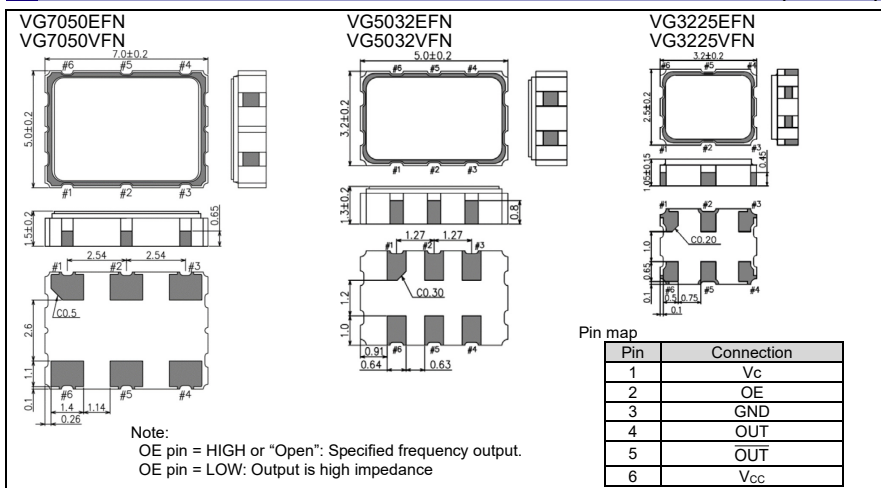
Product Name VG3225 EFN 122.880000MHz C J G H B A

- (Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
 ① Model ② Output (E: LV-PECL, V: LVDS) ③ Frequency
 ④ Supply voltage (C: 3.3 V Typ.) ⑤ Frequency tolerance ⑥ Operating temperature
 ⑦ OE Function ⑧ Absolute Pull Range ⑨ Output Standby Type (A: High-Z)

⑤ Frequency tolerance	⑥ Operating temperature	⑦ OE Function	⑧ Absolute Pull Range
J $\pm 50 \times 10^{-6}$	G -40 to +85 °C	H Active High	B $\pm 50 \times 10^{-6}$
	H -40 to +105 °C		M $\pm 20 \times 10^{-6}$
			S $\pm 10 \times 10^{-6}$

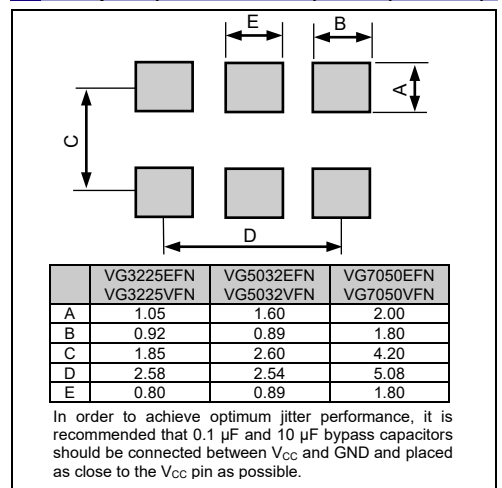
External dimensions

(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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