



VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO)



Product Number
VG5032EDN: X1G004911xxxxxx
VG5032VDN: X1G004951xxxxxx

VG5032EDN

VG5032VDN

Distributed by:



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- Frequency range : 85 MHz to 170 MHz
- Supply voltage : 3.3 V
- Absolute pull range : 50×10^{-6} Min.
- External dimensions : $5.0 \times 3.2 \times 1.3$ t (mm) Typ.
- Operation temperature : +85 °C / +105 °C
- Function : Output Enable(OE), Active High
- Output : LV-PECL or LVDS

Specifications (characteristics)

| Item | Symbol | LV-PECL | LVDS | Conditions / Remarks | |
|------------------------|-------------------|---------------------------------------|------------------|--|--------------------|
| | | VG5032EDN | VG5032VDN | | |
| Output frequency range | f _o | 85 MHz to 170 MHz | | Please contact us for inquiries regarding available frequencies. | |
| Supply voltage | V _{cc} | 3.3 V ± 0.165 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. | | Includes initial tolerance, temperature change, V _{cc} change and 10years aging at +25 C. At V _c =1.65V, reference to f ₀ | |
| Absolute Pull range *1 | APR | ±50 × 10 ⁻⁶ Min. | | V _c = 0 V to 3.3 V reference to f ₀ | |
| Input resistance | R _{in} | 10 MΩ Min. | | DC level | |
| Current consumption | I _{cc} | 60 mA Max. | 30 mA Max. | OE = V _{cc} , LVPECL: 50 Ω, LVDS: 100 Ω | |
| Symmetry | SYM | 45 % to 55 % | | LV-PECL: at V _{cc} - 1.30 V, V _c = 1/2V _{cc} LVDS: at outputs crossing point | |
| Output voltage | V _{OH} | V _{cc} - 1.1 V Min. | — | LV-PECL: DC characteristics | |
| | V _{OL} | V _{cc} - 1.5 V Max. | — | | |
| | V _{OD} | — | 250 mV to 450mV | V _{OD1} , V _{OD2} | LVDS: |
| | V _{OS} | — | 1.15 V to 1.35 V | V _{OS1} , V _{OS2} | DC characteristics |
| Output load condition | L _{ECL} | 50 Ω | — | LV-PECL: Terminated to V _{cc} - 2.0 V | |
| | L _{LVDS} | — | 100 Ω | LVDS: Connected between OUT to $\overline{\text{OUT}}$ | |
| Input voltage | V _{IH} | 70 % V _{cc} Min. | | OE terminal | |
| | V _{IL} | 30 % V _{cc} Max. | | | |
| Rise time / Fall time | tr / tf | 0.5 ns Max. | | LV-PECL: at 20 % to 80 % output swing | |
| | | 0.3 ns Max. | | LVDS: at 20 % and 80 % of Differential Output peak to peak voltage | |
| Start-up time | t _{str} | 10 ms Max. | | Time at minimum supply voltage to be 0 s | |
| Phase Jitter | t _{pJ} | 0.3 ps Max. | | Offset Frequency 12 kHz to 20 MHz | |

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

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

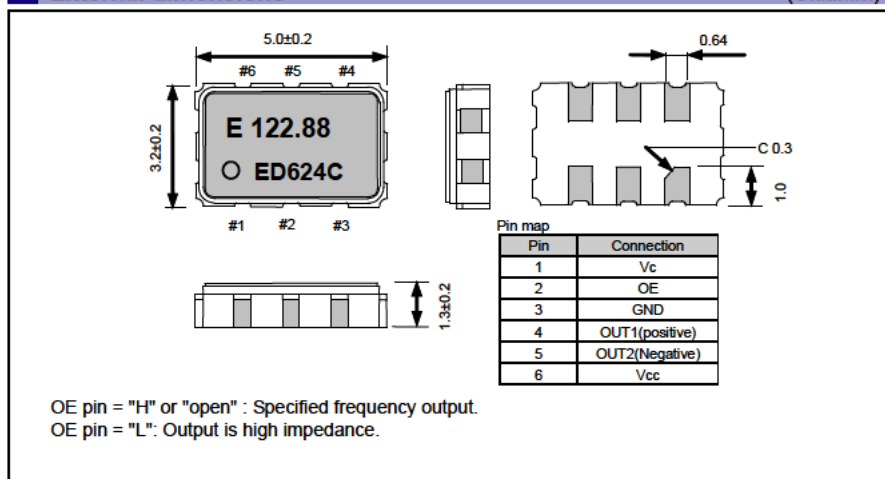
Product name **VG5032 EDN 122.880000 MHz** C J G H B A
 (Standard form) ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

①Model ②Output (E: LV-PECL, V: LVDS) ③Frequency ④Supply voltage (C: 3.3 V Typ)

⑤Frequency tolerance (J: ±50 × 10⁻⁶ Max.) ⑥Operating temperature (G: -40 to +85°C, H: -40 to +105°C)⑦OE Function (H: Active High) ⑧Absolute Pull Range (B: ±50 × 10⁻⁶ Min.) ⑨Output Standby Type (A: High-Z)

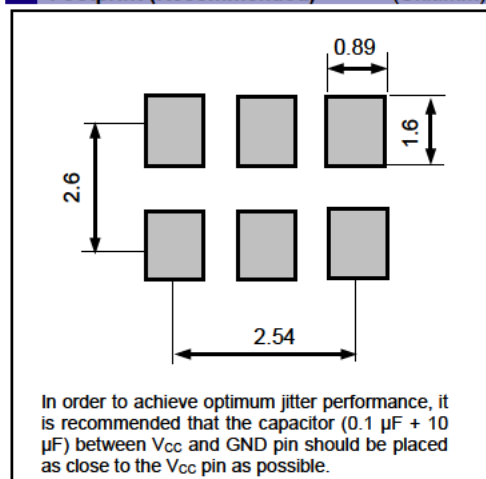
External dimensions

(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.

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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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