



VOLTAGE-CONTROLLED CRYSTAL OSCILLATOR (VCXO)

OUTPUT : LV-PECL



Product Number (Please contact us)

VG-4513CB: X1G004151xxxx00

VG-4513CA: X1G004141xxxx00

VG-4513CB
VG-4513CA

- Frequency range : 100 MHz to 500 MHz
•Supply voltage : 3.3 V
•Absolute pull range : ±30 × 10⁻⁶Min,±50 × 10⁻⁶Min,±100 × 10⁻⁶Min
•Function : Output Enable(OE)
Active High or Low
•Output : LV-PECL



VG-4513CB (5.0 × 3.2 × 1.3 mm)



VG-4513CA (7.0 × 5.0 × 1.6 mm)

Actual size

VG-4513CB

VG-4513CA



Specifications (characteristics)

Table with 4 columns: Item, Symbol, Specifications, Conditions / Remarks. Rows include Output frequency range, Supply voltage, Storage temperature range, Operating temperature range, Current consumption, Frequency tolerance, Absolute pull range, Input resistance, Output load condition, High output voltage, Low output voltage, Symmetry, Rise/Fall times, High input voltage, Low input voltage, Oscillation start up time.

Table with 7 columns: Item, Offset frequency, 122.88 MHz, 153.6 MHz, 245.76 MHz, 368.64 MHz, 491.52 MHz. Rows include Phase noise (Typical value) and APR ±50 × 10⁻⁶ Min. at various offset frequencies.

Product Name VG-4513 CA - 491.520000 - G F C T

(Standard form) ① ② ③ ④⑤⑥⑦

①Model ②Package type ③Frequency(MHz) ④Operating temperature range ⑤Absolute pull range

⑥Supply voltage (C: 3.3V Typ.) ⑦OE function

Table for ④Operating temperature: G -40 to +85°C, J -20 to +70°C, K 0 to +70°C

Table for ⑤Absolute pull range: H\* ±100 × 10⁻⁶ Min., G ±50 × 10⁻⁶ Min., F ±30 × 10⁻⁶ Min.

Table for ⑦OE function: T Active High, L Active Low

\*Only 120 MHz ≤ f₀ ≤ 200 MHz are available.

External dimensions

(Unit : mm)

External dimensions diagram showing top and bottom views for VG-4513CB and VG-4513CA. Includes pin map table and size table.

Footprint (Recommended)

(Unit : mm)

Footprint diagram showing recommended dimensions A, B, C, D for VG-4513CB and VG-4513CA. Includes size table and note about capacitor placement.

## 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.
	► 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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