

# GYRO SENSOR (Digital Output) FOR AUTOMOTIVE

## XV4001BC / BD XV4001KC / KD



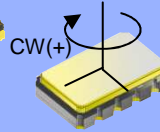
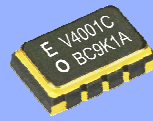
Product number (please contact us)  
 XV4001BC: X2A000201xxxx00  
 XV4001BD: X2A000161xxxx00  
 XV4001KC: X2A000211xxxx00  
 XV4001KD: X2A000171xxxx00

- SPI or I<sup>2</sup>C serial interface
- Angular rate output (16bit), Temperature output (11bit)
- Inclined angle: 20 degrees (XV4001KC/KD)  
 XV4001BC ... I<sup>2</sup>C / 5.0 x 3.2 x 1.3 mm  
 XV4001BD ... SPI / 5.0 x 3.2 x 1.3 mm  
 XV4001KC ... I<sup>2</sup>C / 6.0 x 4.8 x 3.3 mm  
 XV4001KD ... SPI / 6.0 x 4.8 x 3.3 mm
- Conforms to AEC-Q200

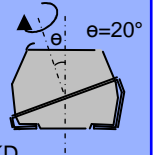
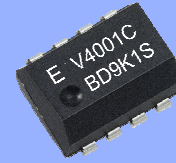
### Recommended Application

- Car navigation system, Telematics

\*The I2C-Bus is a trademark of NXP Semiconductors



XV4001BC/BBD



XV4001KC/KD

Actual size

XV4001BC/BBD



XV4001KC/KD



## Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Supply Voltage	V <sub>DD</sub>	3.3 V ±0.3 V	
Temperature range	Storage Temperature	T <sub>STG</sub>	-50 °C to +105 °C
	Operating Temperature	T <sub>OPR</sub>	-40 °C to +85 °C
Scale factor	S <sub>o</sub>	370 LSB/(°s) ±1.5 %	T <sub>a</sub> =+25 °C
Bias	V <sub>o</sub>	±2 %s (0 LSB Typ.)	T <sub>a</sub> =+25 °C
Rate range	I	±70 %s	
Non linearity	NL	±0.5 % FS	T <sub>a</sub> =+25 °C
Frequency response	BW	10 Hz Typ.	LPF Gain -3dB bandwidth
Cross axes	OS	±5 %	T <sub>a</sub> =+25 °C
Current consumption	I <sub>op</sub>	3.5 mA Typ.	not rotation and not communicating
Noise	r <sub>N</sub>	0.05 %s RMS Typ.	

Product Name  
(Standard form)

XV4001BC \* \* \*

- ① Model    ② Detection axis (1:Z-axis)    ③ Package type(B: Ceramic 5032size, K: Lead frame K-Type)  
 ④ Output (C: I<sup>2</sup>C, D: SPI)    ⑤ Frequency    ⑥, ⑦ Internal identification code (⑥⑦ are not necessary to specify)

## External Dimensions

(Unit:mm)

**•XV4001BC/BBD**

**•XV4001KC/KD**

**Pin map**

Pin	Connection	
	XV4001BC/BBD	XV4001KC/KD
1	N.C.	GND
2	SCLK SCL	MOSI
3	SS	MISO SDA
4	V <sub>DD</sub>	N.C.
5	N.C.	N.C.
6	N.C.	SCLK SCL
7	GND	SS
8	MOSI	V <sub>DD</sub>
9	MISO SDA	-
10	N.C.	-

Do not connect "N.C." pins externally.

## Footprint (Recommended)

(Unit:mm)

**•XV4001BC/BBD**

**•XV4001KC/KD**

## 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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