GYRO SENSOR (Digital Output)
FOR AUTOMOTIVE
XV4001BC / BD
XV4001KC / KD

- SPI or I²C serial interface
- Angular rate output (16bit), Temperature output (11bit)
- Inclined angle: 20 degrees (XV4001KC/KD)
  XV4001BC ··· I²C / 5.0 x 3.2 x 1.3 mm
  XV4001BD ··· SPI / 5.0 x 3.2 x 1.3 mm
  XV4001KC ··· I²C / 6.0 x 4.8 x 3.3 mm
  XV4001KD ··· SPI / 6.0 x 4.8 x 3.3 mm
- Conforms to AEC-Q200
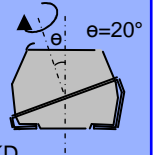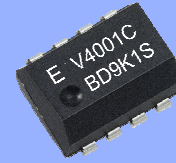
Recommended Application
- Car navigation system, Telematics

*The I2C-Bus is a trademark of NXP Semiconductors

For Automotive

Pb Free   RoHS Compliant

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

CW(+)

θ=20°
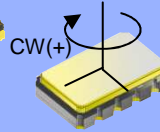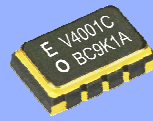
XV4001BC/BD

XV4001KC/KD

Actual size

| XV4001BC/BD | XV4001KC/KD |

Specifications (characteristics)

Item		Symbol	Specifications	Conditions / Remarks
Supply Voltage		V_{DD}	3.3 V ±0.3 V	
Temperature range	Storage Temperature	T_{STG}	-50 °C to +105 °C	
	Operating Temperature	T_{OPR}	-40 °C to +85 °C	
Scale factor		So	370 LSB/(°/s) ±1.5 %	Ta=+25 °C
Bias		V_0	±2 °/s (0 LSB Typ.)	Ta=+25 °C
Rate range		I	±70 °/s	
Non linearity		NL	±0.5 % FS	Ta=+25 °C
Frequency response		BW	10 Hz Typ.	LPF Gain -3dB bandwidth
Cross axes		OS	±5 %	Ta=+25 °C
Current consumption		Iop	3.5 mA Typ.	not rotation and not communicating
Noise		rN	0.05 °/s RMS Typ.	

Product Name
(Standard form)

XV 400 1 B C * * *
① ②③④ ⑤ ⑥ ⑦

①Model ②Detection axis (1:Z-axis) ③Package type(B: Ceramic 5032size, K: Lead frame K-Type)
④Output (C: I²C, D: SPI) ⑤Frequency ⑥,⑦Internal identification code (⑤⑥⑦ are not necessary to specify)

External Dimensions
(Unit:mm)

●XV4001BC/BD

#10 #9 #8 #7 #6
E V4001C
○ BC9K1A
#1 #2 #3 #4 #5

3.2±0.2
5.0±0.2
1.3±0.2
0.32   0.66

#1 #2 #3 #4 #5

#10 #9 #8 #7 #6

●XV4001KC/KD

6.0±0.2
#8 #7 #6 #5
E V4001C
○ BD9K1S
#1 #2 #3 #4

4.4±0.2
4.8±0.2

θ=20°

3.3±0.2
0.6 1.27   0.5±0.5   (1.0)

Pin map

Pin	Connection	
	XV4001BC/BD	XV4001KC/KD
1	N.C.	GND
2	SCLK SCL	MOSI
3	SS	MISO SDA
4	V_{DD}	N.C.
5	N.C.	N.C.
6	N.C.	SCLK SCL
7	GND	SS
8	MOSI	V_{DD}
9	MISO SDA	-
10	N.C.	-

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

Footprint (Recommended)
(Unit:mm)

●XV4001BC/BD

5.10
0.90 0.70 0.30
1.30
1.20
3.80

●XV4001KC/KD

4.61
0.80   0.47
2.20
2.00
6.40

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	►Pb free.
RoHS Compliant	►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.)
For Automotive	►Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
Automotive Safety	►Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

Notice