Sensing Device

SEIKO EPSON CORPORATION

(Unit:mm)

SENSOR **6-DOF INERTIAL SENSOR** AH-6120LR **AP-6110LR**

3-axis gyro plus 3-axis accelerometer

•Factory adjusted accuracy scale factor and bias

Analog output for mixed signaling systems

•Low noise and stability over temperature angular rate detection

- Low current consumption
- •External dimensions: 10.0 x 8.0 x 3.8 mm

•Recommended application: Motion tracking and measurement, Dead reckoning and Healthcare

Specifications (characteristics)



Item	Symbol	AH-6120LR	AP-6110LR	Conditions / Remarks	
Supply Voltage	Vdd	3.0V±0.3V	2.85V to 3.6V		
Storage Temperature	Tstg	-40°C to +85°C			
Operating Temperature	TOPR	-40°C to +85°C			
Current consumption	lop	6.1mA Typ.	6.8mA Typ.		
- Gyro sensor -					
Scale factor	So	1.0mV/(°/s) Typ.	3.0 mV/(°/s) Typ.	Ta=+25°C	
Scale factor variation with temp.	-	±3%	-3% to +2%	Based on Ta=+25°C	
Bias	Vo	Vr±20mV	Vr±15mV	VDD=3V,Ta=+25°C	
Bias variation with temp.	Vo- Vr	±25mV	±24m∨	Based on Ta=+25°C	
Reference voltage	Vr	1350mV±20mV	1430mV±15mV	Ta=+25°C	
Range	Ι	±1000°/s	±300°/s		
Non linearity	NL	±2% FS	±0.5% FS	Ta=+25°C	
LPF bandwidth	BW	223Hz Typ.	200Hz Typ.	90 degree phase delay	
Noise density	Nd	0.006(°/s)/√Hz Typ.	0.004(°/s)/√Hz Typ.	AH-6120LR: 10 to 100Hz Ave.	
				AP-6110LR : 1 to 100Hz Ave.	
- Accelerometer -					
Scale factor	SF	200mV/G Typ.	400mV/G Typ.	VDD=3V, Ta=+25°C	
Scale factor variation with temp.	-	±3% Тур.		Based on Ta=+25°C	
Scale factor ratiometric error		14	VDD=3V±5%, Ta=+25°C		
	-	±1% Typ.		Based on VDD=3V	
Bias	-	1500mV Typ.		VDD=3V, Ta=+25°C	
Bias variation with temp.	-	±150mG Typ.		VDD=3V,Based on Ta=+25°C	
Range	-	±6G Typ.	±3G Typ.	Ta=+25°C	
Non linearity	NL	±0.5% FS Typ.		Ta=+25°C	
LPF bandwidth	BW	1000Hz Typ.		45 degree phase delay	

Product Name (Standard form) AH-6120 LR +/-1000 dps +/-6G 0 3

(4)

 Model ②Package type ③Rate range of Gyro sensor ④Rate range of Accelerometer

External Dimensions and recommended footprint

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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.

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.

Explanation of the mark that are using it for the catalog

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.

ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

Pb Free	► Pb free.
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Compliant	Contains Pb in products exempted by EU RoHS directive.
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).

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