

High Accuracy MEMS Accelerometer

AC102

Advantages

- Bias stability (Allan Curve) <5 μg
- Bias stability (1s Standard Deviation)(1 σ)<20 μg
- Bandwidth 100Hz



Applications

- Inertial measurement: inertial guidance, overload measurement, combined navigation
- Tilt measurement: antenna attitude, platform measurement, dip test
- Vibration measurement: mechanical equipment, bridge dam, safety test

Accelerometer	-2	-10	-30	-50	-100	-200	
Range	± 2	± 10	± 30	± 50	± 100	± 200	g
Bandwidth	100	100	100	100	100	100	Hz
Bias Stability (Allan Curve)	<5	10	10	<10	<20	<30	μg
Bias Stability (10s) (1 σ)	<20	<50	<50	<50	<100	<150	μg
Bias Month Repeatability	100	100	100	500	1000	1000	μg
Bias Temp Coefficient	<10	<10	<20	<50	<100	<200	$\mu\text{g}/^\circ\text{C}$
Bias Temp Hysteresis	<0.5	<1	<1.5	<2	<3	<5	mg
Factor Scale Non-linearity	<500	<500	<500	<1000	<1000	<2000	ppm
Factor Scale Month Repeatability	<300	<100	<30	<300	<300	<300	ppm
Factor Scale Temp Coefficient	10	10	10	10	10	10	ppm/ $^\circ\text{C}$
Class II Non-linearity Coefficient	<100	<100	<100	<100	<100	<100	$\mu\text{g}/\text{g}^2$
Resolution	5	5	10	10	25	50	μg
Start Time	<1	<1	<1	<1	<1	<1	s
Sampling Rate	1500	1500	1500	1500	1500	1500	Hz
Shock(charged)	10000	10000	10000	10000	10000	10000	g
Shock(uncharged)	10000	10000	10000	10000	10000	10000	g
Operation Temp	-45 $^\circ\text{C}$ +85 $^\circ\text{C}$						
Voltage	5 \pm 0.25	5 \pm 0.25	5 \pm 0.25	5 \pm 0.25	5 \pm 0.25	5 \pm 0.25	V
Current	<15	<15	<15	<15	<15	<15	mA
Interface	SPI	SPI	SPI	SPI	SPI	SPI	SPI