

QUARTZ FLEXIBLE ACCELEROMETER

BEIJING AUTOMATION CONTROL EQUIPMENT INSTITUTE



• QFA-06E



• QFA-11



• QFA-20

Overview of product

As one of the earliest manufacturers who develops quartz flexible accelerometer in China. The institute's design level, process level and production scale are all in national leading position. Currently, the institute can produce more than ten types of quartz flexible accelerometers, forming basic-type and series products. These products range from high-accuracy ug-level accelerometer for satellite micro-gravity measurement, to low-cost adverse-environment-resistant accelerometer for petroleum drilling, providing information for navigation, guidance, control, leveling, and monitoring of various systems.

Technical characteristics

High accuracy, high reliability, and adverse-environment resistance.

Field of application

Aerospace, aviation, ship, ordnance, petroleum, and geotechnical engineering.

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TYPE	QFA-06A	QFA-06D	QFA-06E	QFA-06F/K	QFA-11	GJN-20	QFA-30B-I	QFA-30B-II
Performance								
Input Rang [g]	-25 to +25	-60 to +60	-25 to +25	-10 to +10	-20 to +20	-20 to +20	-30 to +30	-30 to +30
Bias[mg]	≤5	≤5	≤5	≤10	≤8	≤5	≤5	≤5
One-year Repeatability[μg, max]	≤250	≤300	≤300	≤1000	≤500	≤500	≤100	≤200
Temperature Sensitivity[μg/°C]	≤40	≤50	≤50	≤150	≤50	≤50	≤20	≤50
Scale Factor [mA/g]	1.20 to 1.60	0.90 to 1.30	1.20 to 1.60	2.30 to 3.50	1.0 to 1.6	0.90 to 1.30	1.20 to 1.60	1.20 to 1.60
One-year Repeatability[ppm, max]	≤500	≤500	≤500	≤1500	≤1000	≤1000	≤200	≤500
Temperature Sensitivity[ppm/°C]	≤120	≤100	≤120	≤120	≤120	≤120	≤60	≤100
Axis Misalignment [μrad]	≤1500	≤1500	≤2000	≤2000	≤2000	≤2000	≤1000	≤1500
One-year Repeatability[μrad, max]	≤150	≤150	≤150	≤200	≤150	≤200	≤100	≤100
Vibration Rectification[μg/g2 RMS]	≤20(50-500Hz) ≤40(500-1500Hz)	≤40(50-500) ≤60(500-1500)	≤40(50-500) ≤60(500-1500)	≤50(50-500)	≤40(50-500) ≤60(500-1500)	≤40(50-500) ≤60(500-1500)	≤20(50-500) ≤40(500-1500)	≤40(50-500) ≤60(500-1500)
Intrinsic Noise [mV RMS] @1kΩ	≤5	≤5	≤5	≤5	≤5	≤5	≤5	≤5
Environmet								
Operating Tempreture Range [°C]	-45 to +80	-45 to +80	-45 to +80	-40 to -125	-45 to +80	-45 to -80	-45 to +80	-45 to +80
Shock [g]	100	200	100	500	500	100	100	100
Vibration Peak Sine [g]	15(20-2000)HZ	20(20-2000)HZ	20(20-2000)HZ	20(20-2000)HZ	15(20-2000)HZ	15(20-2000)HZ	15(20-2000)HZ	15(20-2000)HZ
Resolution/Threshold [μg]	≤1	≤1	≤1	≤1	≤1	≤5	≤1	≤1
Bandwidth [hz]	>800	>800	>800	>800	>800	>800	>800	>800
Thermal Modeling	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electrical								
Quiescent Current per Supply [mA]	≤15	≤15	≤15	≤15	≤15	≤15	≤15	≤15
Quiescent Power [mW] @±15VDC	≤450	≤450	≤450	≤450	≤450	≤450	≤450	≤450
Electrical Interface	---	---	---	---	---	---	Temp Sensor	Temp Sensor
	Voltage Self Test	Voltage Self Test	Voltage Self Test	Voltage Self Test	Voltage Self Test	Voltage Self Test	Voltage Self Test	Voltage Self Test
	Current Self Test	Current Self Test	Current Self Test	Current Self Test	Current Self Test	Current Self Test	Current Self Test	Current Self Test
	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output	Power/Signal Ground -9 VDC Output +9 VDC Output
Input Voltage [VDC]	±12 to ±18	±12 to ±18	±12 to ±18	±12 to ±18	±12 to ±18	±12 to ±18	±12 V~±18V	±12 V~±18V
Physical								
Weight[grams]	≤70	≤80	≤70	≤60	≤60	≤40	≤70	≤70
Diameter below Mounting Surface [mm]	Φ25.4	Φ25.4	Φ25.4	Φ25	Φ25	Φ18.8	Φ25.4	Φ25.4
Height-bottom to mounting surface [mm]	15.3	16.8	16.8	10.3	10.3	10.7	15.3	15.3
Case Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

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