

SENSORS

PIEZOELECTRIC VIBRATING GYROSCOPE

ENC SERIES



This angular velocity sensor employs the principle that a Coriolis force results if an angular velocity is applied to a vibrating object. Murata's unique ceramic bimorph vibrating unit is used as the sensor element unit, thereby enabling piezoelectric ceramics to be used for both excitation and detection. The use of this unit simplifies equipment structure and circuit configuration, thus making it possible to provide outstanding performance.

This sensor can be used for positional control and posture control of a moving object requiring high-precision measurements.

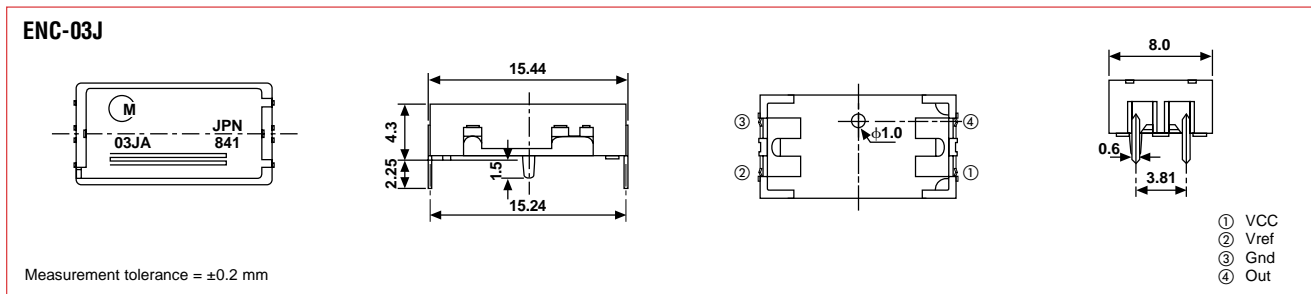
FEATURES

- Ultra small and ultra lightweight
- Quick response
- Low driving voltage, low current consumption
- Reliable feature achieved by a built in AGC circuit

APPLICATIONS

- Detecting hand movement involved in video and still camera
- Detecting vibrations in various vibration free table and isolators
- Detecting the own movement

DIMENSIONS: mm



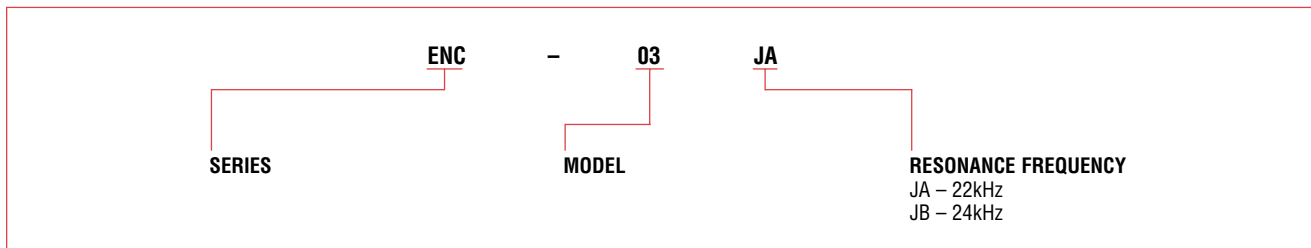
SPECIFICATIONS

Characteristics	Symbol	Condition	Min.	Std.	Max.	Unit
Supply voltage	Vcc		+2.7	+3.0	+5.5	VDC
Current consumption	I _{sup}	at Vcc = +3.0V	2.5	3.2	4.5	mA
Comparative voltage	Vref	at -5 ~ +75°C	+1.25	+1.35	+1.45	VDC
Static output (Bias)	V0	angular velocity = 0 at -5 ~ +75°C	Vref - 0.55	Vref	Vref + 0.55	VDC
Angular velocity range	ω max.			+300		deg/s
Scale factor	Sv		-20%	0.67	+20%	mV/deg/s
Temperature coefficient of Scale factor		Reference: Ta at -5 ~ +75°C	-20	—	+10	%FS
Resonance frequency - version ENC-03JA - version ENC-03JB	fa fb		— —	22 24	— —	kHz kHz
Resonance frequency disparity	fa - fb	at -5 ~ +75°C	500	—	—	kHz
Linearity		in the maximum angular velocity range	-5	—	+5	%FS
Response		Phase delay: 90deg	DC p 50			Hz
Operating Temperature Range	Topr		-5	—	+75	°C
Storage Temperature Range	Tstg		-30	—	+85	°C
Weight			—	—	1.0	g

All typical values.

Unless otherwise specified, ambient temperature Ta = 25 ± 5°C, Vcc = 3.0VDC. Use a sensor output load resistance of 50kV or more. Comparative voltage (Vref) is grounded with condenser of 4.7mF.

PART NUMBERING SYSTEM



For more detailed information regarding this product line in North America, contact us. To receive additional information on Murata Products call 1-800-831-9172.