

SENSORS PIEZOELECTRIC VIBRATING GYROSCOPE ENV-05D SERIES



Murata Electronics' new rotational angular velocity sensor combines Murata's equilateral triangle prism vibrating unit with a revolutionary mounting technology for the piezoelectric ceramic element that produces 100 times the precision of other vibration gyroscopes.

APPLICATIONS

- Navigation systems
- Platform positioning and stabilizing
- Car electronics: accident history recorder, dead reckoning, theft

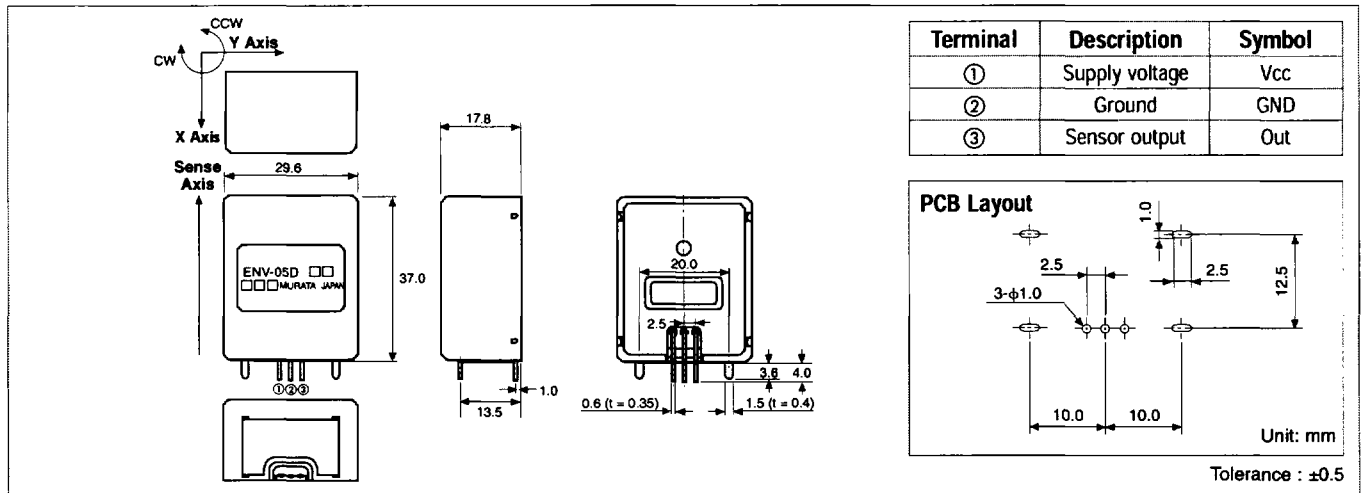
- retrieval, unmanned vehicles
- Satellite antenna positioning
- Office automation
- Factory automation
- Mayday system
- Construction equipment

Note: This product is not approved for military and avionics.

BENEFITS

- Low price
- Low drift
- Low noise
- Compact
- Fast response
- Precision detection

DIMENSIONS: mm



SPECIFICATIONS

Characteristics	Symbol	Condition	Min.	Std.	Max.	Unit
Supply voltage	Vcc		+4.5	+5.0	+5.5	VDC
Current consumption	Icc	at Vcc = 5.0VDC	—	—	17	mA
Maximum angular velocity	ω max.		-80	—	+80	deg/s
Output	Vo	Angular velocity = 0 at -30 ~ 80°C	2.200	2.500	2.800	VDC
Scale factor	Sv	at -10 ~ 60°C	20.4	22.2	24.0	mV/deg/s
		at -30 ~ 80°C	19.3	22.2	25.1	
Asymmetry CW & CCW			—	—	3	deg/s
Temperature coefficient		-10 ~ 60°C	—	—	±5	%FS
Scale factor		-30 ~ 80°C	—	—	±10	
Drift		-30 ~ 80°C	—	—	9	deg/s
Start up		Measure Vo after 5 seconds	—	—	±1	deg/s/10 min.
Noise level		12kHz noise	—	—	20	mVrms
Linearity		in the maximum angular velocity range	—	—	0.5	%FS
Response		Phase delay: 90deg	—	12	—	Hz
Operating Temperature Range	Topr		-30	—	80	°C
Storage Temperature Range	Tstg		-40	—	85	°C
Weight			—	—	50	gr
Dependence on supply voltage		Reference: Vcc = 5.00V Δ Sv: scale factor change (%) Δ Vo: output change (%); Δ Vcc: supply voltage change (%)	$\Delta Sv(\%) \% (1.1 \pm 0.2) \times \Delta Vcc(\%)$ $\Delta Vo(\%) \% (1.0 \pm 0.2) \times \Delta Vcc(\%)$			

Unless otherwise specified, ambient temperature = 25 ± 5°C, Vcc = 5.000VDC. Use a sensor output load resistance of 22kΩ or more.

PART NUMBERING SYSTEM

ENV-05	D	XX	643	MURATA	JAPAN
Model Name	DB: with wires pigtail D: PCB mount	SUFFIX 52=Standard	LOT NUMBER	MANUFACTURING NUMBER	COUNTRY COMPANY OF ORIGIN

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.