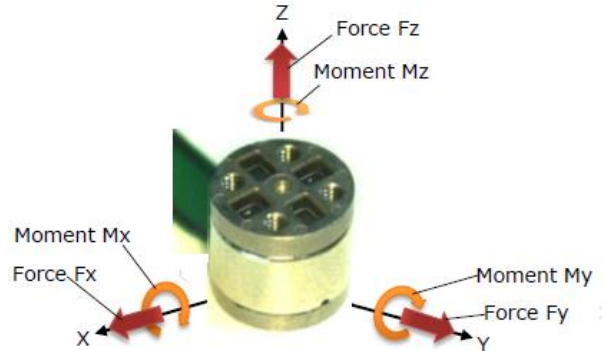


Ultra Miniaturized 6-Axis Force Sensor

MinebeaMitsumi introduces the smallest 6-axis force sensors utilizing MEMS technology on a metal flexural structure. A single MEMS piezo resistive die is etched with Deep RIE process to provide a highly sensitive force sensor chip. Signal conditioning and temperature compensation is performed using our own Analog Front End ICs on a flexible printed circuit. The sensor die is attached to a high performance metal structure to provide force and torque output for all three axes.

FEATURES

- MEMS PRT on Metal Flexure
- World Smallest 6-axis force sensor –
- Digital I2C Interface
- Highly Sensitive with resolution of 0.1N and 0.001 N.m for force and torque respectively



Parameter	Condition	Value	Unit
Performance			
Force Measurement Range	Fx, Fy, Fz	40	N
Torque Measurement Range	Mx, My, Mz	0.4	N•m
Overload Capacity	Force	± 200	N Max.
	Torque	±1.8	N•m
Total Accuracy	Force	±5	% of Full Scale
	Torque	±5	% of Full Scale
Resolution	Force	0.04	N
	Torque	0.001	N•m
Non-Linearity		±1	% of Full Scale
Hysteresis		±1	% of Full Scale
Other Axis Interference		±5	% of Full Scale
Electrical			
Communication Interface		I2C	
Power Supply Voltage		3.0 to 3.6	Vdc
Environment			
Operating Temperature		+5 to +45	°C
Storage Temperature		-10 to +60	°C
Mechanical			
Mounting Holes	Top Surface	4 x M1.6	
	Bottom Surface	4 x M1.6	
Dimensions	Diameter x Height	φ9.6 x 9.0	mm
Weight		3	g

