

MEMS Test and Measurement Sensors



MSV 3100

Variable Capacitance, Triaxial Accelerometers

- ◇ $\pm 2 \sim \pm 20,000g$ Range
- ◇ Low Noise
- ◇ 20,000g Shock Resistance
- ◇ Large Bandwidth(DC~5000Hz@5%)
- ◇ Excellent Thermal Stability
- ◇ $-55 \sim +125^{\circ}C$ Operating Temp.

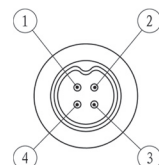
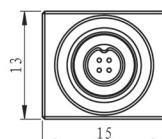
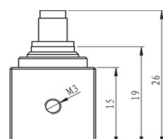
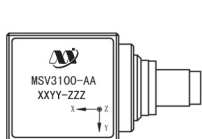
Parameter	Unit	MSV3100-02	-10	-30	-50	-100	-200	-500	-1000	-10000	-20000
Range	g	± 2	± 10	± 30	± 50	± 100	± 200	± 500	± 1000	± 10000	± 20000
Frequency Response $\pm 5\%$	Hz	0~250	0~1000	0~1000	0~1000	0~1500	0~1500	0~2500	0~2500	0~5000	0~5000
Damping Coefficient		0.7	0.7	0.7	0.7	1	1	1	1	1	1
Sensitivity(@100Hz)	mV/g	1000 ± 8	200 ± 2	66.6 ± 1	40 ± 1	20 ± 1	10 ± 1	4 ± 0.3	2 ± 0.3	0.2 ± 0.03	0.1 ± 0.01
Resonant Frequency	kHz	1.3	2.7	5.5	5.5	9.8	9.8	12.7	12.7	12.7	12.7
Transverse Sensitivity, Typ Max	%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sensitive Axis Misalignment, Typ Max	mrad	10	10	10	10	10	10	10	10	10	10
Non-linearity	% FSO	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<4	<6
Phase Shift (Max@100Hz)	Degrees	20	10	10	10	10	10	10	10	5	5
Noise Density	mgrms/ $\sqrt{Hz}$	0.0002	0.001	0.005	0.01	0.5	0.75	1.5	2	20	40
Resolution	mg	0.002	0.01	0.05	0.1	5	7.5	15	20	200	400
Sensitivity Temp.Coefficient	ppm/ $^{\circ}C$	50	50	50	50	50	50	50	50	50	50
Bias Temp.Coefficient	mg/ $^{\circ}C$	0.05	0.5	1.5	2.5	5.0	10	25	50	500	1000
0g Output	mV	2500 ± 10									
Capacitive Load Drive	μF	0.05									
Resistance Load Drive	k Ω	10									
Output Impedance	Ω	10									
Supply Current	mA	16									
Excitation	Vdc	7~40									
Error Proofing Design		Yes									
Shock(half-sine, 200 μ sec)	g	20000									
Random Vibration(20~2000Hz)	grms	20									
Storing Temp.	$^{\circ}C$	$-40^{\circ}C \sim +85^{\circ}C$ (default) ; $-55^{\circ}C \sim +125^{\circ}C$ (as request)									
Operating Temp.	$^{\circ}C$	$-55 \sim +125$									
Housing Material	Material	Stainless Steel									
Size	mm ³	15 $\times$ 15 $\times$ 13mm									
Connector	Type	4 pin, 1/4"-28UNF									
Mounting Thread		Holes for M3 Mounting Screws / Adhesive									
Packaging		Hermetic									
Gound Isolated		Yes									
Weight	grams	26									

All values are typical at +25 $^{\circ}C$, 100Hz, +15Vdc unless otherwise statement. Calibration data, traceable to the National Institute of Metrology(NIM) is supplied.

◇ Applications

Aviation & Aerospace Helicopter & Aircraft Testing Automotive Testing & Crash Testing
Civil Engineering Structural Testing Railway Technology Industrial Testing

◇ Structure (unit:mm)



1	2	3	4	Shield
VCC	X	Y	Z	GND