ENDEVCO
AN AMPHENOL COMPANY

PERFORMANCE SPECIFICATION
ACCELEROMETER
6222S-XXXA

Document Number	Rev	Date	Entered by	Description of Change	Change Accountable Engineer	ECO
77021	A	9/17/25	NAD	Updated the typical capacitance of 6222S-50A for crystal conversion.	DKB	56072

1.0 DESCRIPTION

The ENDEVCO® Model 6222S-XXXA Accelerometer is designed to operate with long mean time between failure in the environments of jet engines. It features a rugged design to withstand normal jet engine maintenance and installation environments.

The transducer utilizes ENDEVCO PIEZITE® P8 crystals and ISOSHEAR® construction to significantly reduce transient temperature and base strain outputs while maintaining a high mounted resonance and a high operating temperature.

Electrically, the transducer is designed for use with differential charge amplifiers.

Model number suffix "-XXXA" is used to specify the charge output. The model number suffix "XXX" designates the charge sensitivity in pC/g. Available are 20, 50 and 100 pC/g versions. The letter "A" refers to a two-pin 7/16-27 UNS-2A threaded receptacle. e.g., the 6222S-50A is a 50 pC/g model with a two-pin 7/16-27 UNS-2A threaded receptacle.

The following performance specifications are taken at +75°F (+24°C), referenced at 100 Hz and conform to ISA-RP-37.2 (1-64) unless otherwise noted.

2.0 DYNAMIC CHARACTERISTICS

2.1	CHARGE SENSITIVITY	-20	20 pC/g ±5%
		-50	50 pC/g ±5%
		-100	100 pC/g ±5%
2.2	RESONANT FREQUENCY [1]	-20	45 kHz typical, 40 kHz minimum
		-50	28 kHz typical, 25 kHz minimum
		-100	28 kHz typical, 25 kHz minimum
2.3	FREQUENCY RESPONSE [2]	-20	±5% 1 Hz to 9 kHz
			±1 dB (ref.) 1 Hz to 12 kHz
	(See typical curves)	-50	±5% 1 Hz to 6 kHz
			±1 dB (ref.) 1 Hz to 9 kHz
		-100	±5% 1 Hz to 6 kHz
			±1 dB (ref.) 1 Hz to 9 kHz

2.4	TEMPERATURE RESPONSE (See typical curves)	-20	±10% typical from -65°F to+500°F (-53°C to +260°C)
		-50	±10% typical from -65°F to +500°F (-53°C to +260°C)
		-100	±10% typical from -65°F to +500°F (-53°C to +260°C)
2.5	TRANSVERSE SENSITIVITY	3% maximum	
2.6	AMPLITUDE LINEARITY	Sensitivity increases approximately:	
		-20	1% per 625 g
		-50	1% per 250 g
		-100	1% per 200 g
2.7	RESISTANCE [3]		
2.7.1	Between Signal Pins	10 GΩ minimum at room temperature 50 MΩ minimum at +500°F (+260°C)	
2.7.2	Each Signal Pin to Case	10 GΩ minimum at room temperature 50 MΩ minimum at +500°F (+260°C)	
2.8	CAPACITANCE		
2.8.1	Between Signal Pins	-20	2800 pF typical
		-50	3000 pF typical
		-100	12200 pF typical
2.8.2	Either Signal Lead to Case	Less than 30 pF typically, with an unbalance between pins of 2 pF maximum.	
2.9	BASE STRAIN	-20	1.0 equivalent g at 250 μstrain, typical.
		-50	0.4 equivalent g at 250 μstrain, typical.
		-100	0.2 equivalent g at 250 μstrain, typical.
2.10	TRANSIENT TEMPERATURE	With a 1 Hz high pass filter	
		-20	0.020 equivalent g per °F typical
		-50	0.010 equivalent g per °F typical
		-100	0.005 equivalent g per °F typical

3.0	**ENVIRONMENTAL CHARACTERISTICS**		
3.1	TEMPERATURE	-65°F to +500°F (-54°C to +260°C)	
3.2	ALTITUDE	Not affected	
3.3	VIBRATION	-20 -50 -100	2000 g pk sinusoidal 1000 g pk sinusoidal 500 g pk sinusoidal
3.4	SHOCK	-20 -50 -100	4000 g pk any direction 2000 g pk any direction 1000 g pk any direction
3.5	CONTAMINATION	Hermetically sealed	
4.0	**PHYSICAL CHARACTERISTICS**	See Outline Drawing	
4.1	WEIGHT	0.13 lbs (60 grams) maximum	
4.2	CASE MATERIAL	Stainless steel	
4.3	ELECTRICAL CONNECTOR (RECEPTACLE)	7/16-27 UNS-2A threaded receptacle. Mates with ENDEVCO® 6900 series Cable Assemblies or equivalent.	
5.0	**ACCESSORIES**		
5.1	SUPPLIED		
	Bolt, Mach soc hd cap	ENDEVCO® P/N EH621, 8-32 x 1/2" long	
6.0	**CALIBRATIONS**		
6.1	SUPPLIED		
	Sensitivity	pC/g at 100 Hz	
	Transverse Sensitivity	% at approximately 12 Hz and 7.5 g	
	Output Capacitance	pF	
	Frequency Response	-20 -50, -100	% plotted 50 Hz to 9 kHz, dB plotted 9 kHz through resonance. % plotted 50 Hz to 6 kHz, dB plotted 6 kHz through resonance.

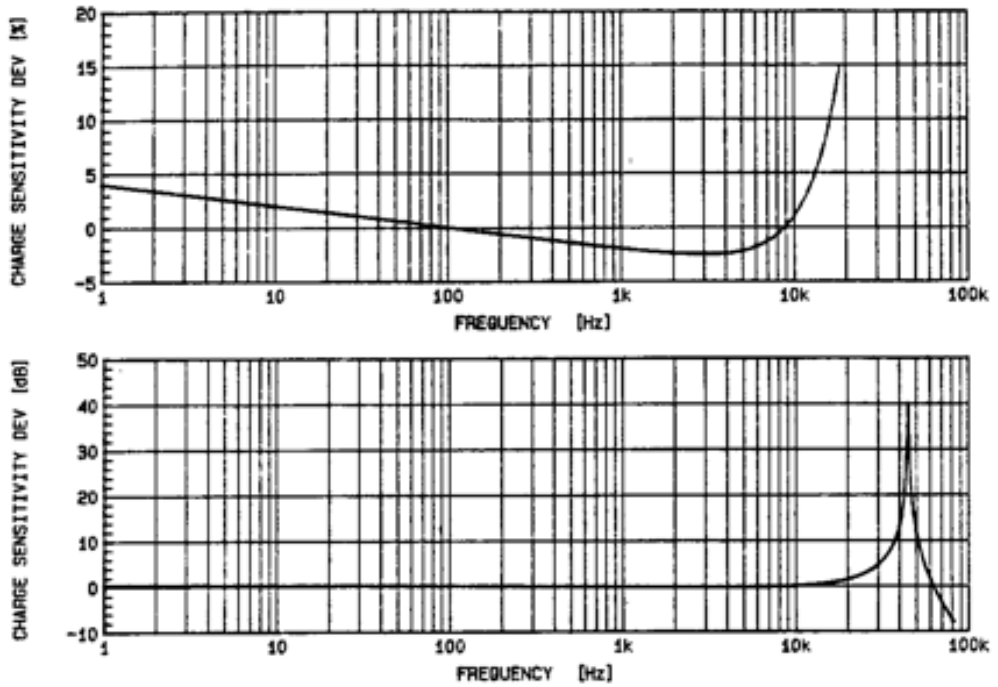
[1] Cover resonance at approximately 23 kHz, case resonance at approximately 35 kHz.

[2] Frequency response below 1 Hz depends on associated electronics.

[3] Prolonged exposure at maximum temperature may decrease the return to room temperature resistance to as low as 500 MΩ, but will not degrade the overall performance of the unit. All units are processed to initially meet 10 GΩ at room temperature.

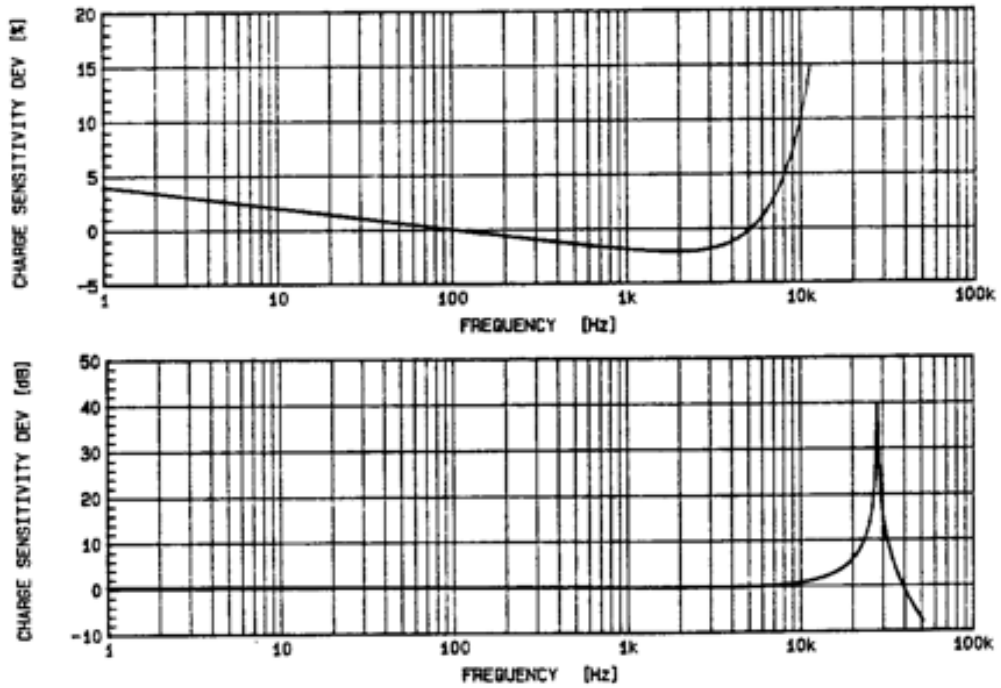
TYPICAL FREQUENCY RESPONSE

ENDEVCO MODEL 6222S-20



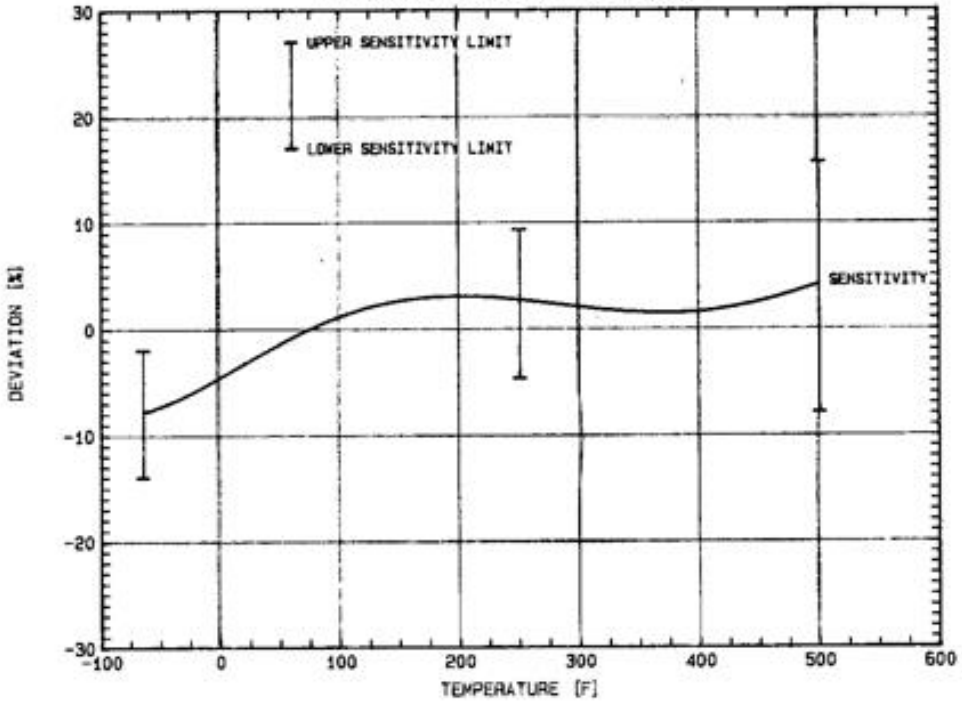
TYPICAL FREQUENCY RESPONSE

ENDEVCO MODEL 6222S-50 & 6222S-100



TYPICAL TEMPERATURE RESPONSE

ENDEVCO MODELS 6222S-20 & 6222S-50



TYPICAL TEMPERATURE RESPONSE

ENDEVCO MODEL 6222S-100