HIGH TEMPERATURE PIEZOELECTRIC ACCELEROMETER (HTPE)

Model 6235M1

Product description

The Parker Meggitt Model 6235M1 piezoelectric accelerometer is designed for high temperature vibration monitoring and use in high temperatures, wet and dusty environments, and where high radiation is encountered. Accumulated radiation of 10^{10} rad and up to 10^{18} thermal neutrons/cm^2 can be tolerated. This accelerometer is designed for continuous operation to 482°C.

The Model 6235M1 has a Kevlar covered, double shielded hard-line cable with a three socket MS3474G8-33S receptacle.

The Model 6235M1 is designed and manufactured by Parker Meggitt and incorporates Parker Meggitt's compression element to provide a balanced output, excellent temperature stability and wide operational bandwidth. Model 6235M1 provides an electrically balanced differential output isolated from case ground for use with differential charge amplifiers.

Model number definition:
6235M1 = basic model number
6235M1-ZZZ, where ZZZ is the cable length in inches

Key features and benefits

- Requires no external power
- +900°F (+482°C) operation
- Hermetically sealed
- Ground isolated
- Balanced differential output
- RoHS compliant

Applications

- Aircraft and gas turbine engine monitoring
- Test cell vibration measurements
- Nuclear applications

Parker Defense Systems

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Specifications		
The following performance specifications are typical values, referenced at +75˚F (+24˚C) and 159.2 Hz, unless otherwise noted.		
Dynamic characteristics	**Units**	**Value**
Charge sensitivity (±5%)	pC/g	10 ±5%
Frequency response	See typical amplitude response	
Resonance frequency	kHz	30 (typ), 26 (min)
Amplitude response		
±1dB	Hz	1 to 9000
Temperature response	See typical curve	
Transverse sensitivity	%	⩽ 3 maximum
Amplitude linearity (up to vibration limit) %		1%/500 g
Electrical characteristics		
Output polarity	Polarity is positive on the pin A of receptacle	
Resistance		
Between signal pins	MΩ	>100 at room temp.
	KΩ	100 minimum at 900˚F (482˚C)
Each signal pin to case	MΩ	>100 at room temp.
Capacitance		
between signal pins	pF	725 (typ) sensor element only
Grounding		Signal return isolated from case
Environmental characteristics		
Temperature range [1] (accelerometer only)	-325˚F to +900˚F (-196˚C to +482˚C)	
Humidity	Hermetically sealed	
Sinusoidal vibration limit	g pk	1000
Shock limit	g pk	2000
Base strain sensitivity	equiv. g pk /μ strain	0.002
Integrated gamma flux	rad	Up to 6.2×10^{10}
Integrated neutron flux	N/cm^2	Up to 3.7×10^{18}
Electromagnetic sensitivity	$m/s^2/T$	20
50 Hz, 38mT typ		
Physical characteristics		
Dimensions	See outline detail	
Weight, without cable	gm (oz)	75 (2.6)
Case material	Inconel	
Connector	Mating connector of MS3474G8-33S	
Mounting torque	lbf-in (Nm)	14 (1.6)
Calibrations Supplied		
Charge frequency response	%	50 to 9000 Hz
Phase response	Deg	50 to 9000 Hz
Charge sensitivity,	pC/g	at 100 Hz
Resistance	MΩ	Pin to pin
Isolation resistance	MΩ	Each pin to case

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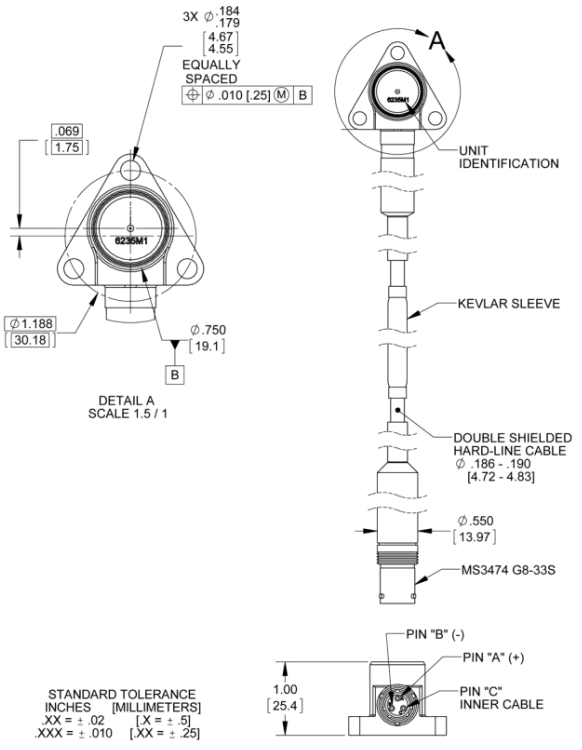
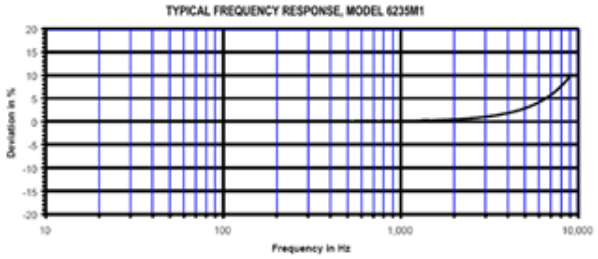
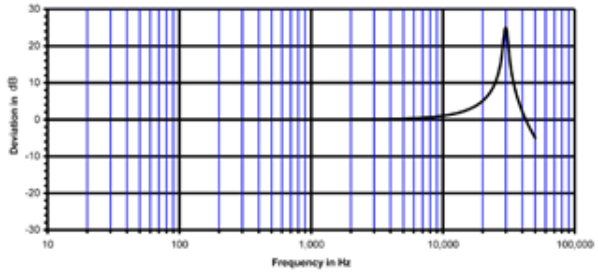
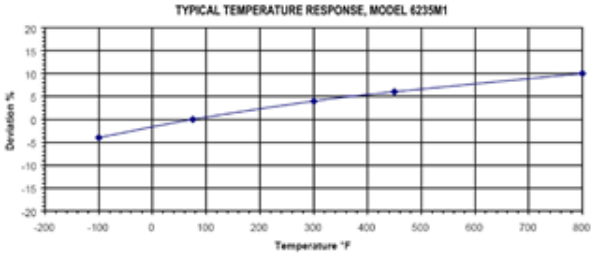
Accessories
SUPPLIED: EH700 Mounting Screw-Non Isolated, 4MM (Qty 3)/EHW199 Lock Washer #8 (Qty 3)/EHM1641 Wrench Hex Key, Metric (Qty 1)

Notes
Spurious High Frequency discharge may be exhibited by this device for several minutes after exposure to temperaturetransients of greater than -100° F (-73°C) per minute.









APPLIES TO CALIFORNIA FACILITY

Continued product improvement necessitates that MEGGITT reserve the right to modify these specifications without notice. MEGGITT maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. 010121

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Note: Due to continuous process improvement, specifications are subject to change without notice. TCO Review # 330