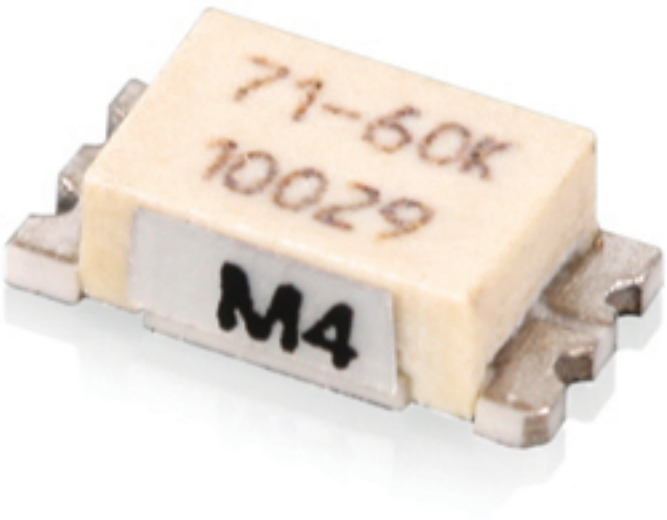
Surface Mountable Accelerometers Supports High-g Shock Measurement Requirements



Meggitt Sensing Systems has introduced the Endevco model 71M series, a family of rugged, undamped subminiature surface mountable piezoresistive accelerometers, designed to support a variety of high-g shock measurement requirements.

With available g ranges of 2K, 6K, 20K and 60K, design of the Endevco® model 71M series features a patented, monolithic, four-active arm bridge circuit design (U.S. patent numbers 4,498, 229, 4,605,919 and 4,689,600) incorporating the use of Meggitt's own proprietary sensing element, machined in-house from a single piece of silicon at its ISO9001 certified MEMS facility in Sunnyvale, California, USA. This etched silicon chip includes both the inertial mass and strain gages arranged in an active four-arm Wheatstone bridge circuit, complete with a novel on-chip zero balance network. The element is housed within a low-profile, miniature, epoxy sealed subminiature surface mountable package, weighing just 0.06 gram, for minimized mass loading effects.

The low mass, small size and unique construction of the MEMS sensing element allows for high resonance frequency, low output impedance, 3x over-range, and zero damping for minimal phase shift over its useful frequency range.

The high resonance frequency of the Endevco 71M series permits their survival in the presence of high-frequency components, in a shock pulse that could otherwise shatter the seismic system of accelerometers having lower resonance frequencies. Because they are undamped, the accelerometers can also accurately respond to fast rise times and short duration shock motion. With a frequency response extending down to dc (steady state), they are ideal for measuring long duration

transient shocks while integrating critical acceleration data for velocity and displacement.

Recommended accessories include the model 126 three-channel DC bridge amplifier; the model 136 three-channel signal conditioner; and the model 436 DC differential voltage amplifier. Please note, global sale of this product is subject to International Traffic in Arms Regulations and as such, a license is required for all non-US shipments, with the product also potentially subject to other restrictions on its sale and use. Consult factory for details. For additional information, visit www.meggittsensingsystems.com [1]

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