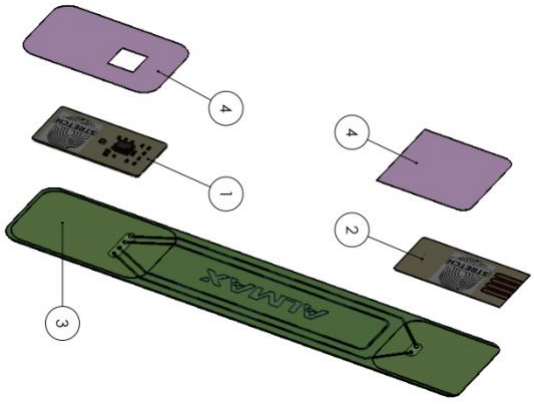
Strain-Sensitive LED Demonstrator



Sample 60A from ALMAX utilizes a unique gel phased liquid metal which can be patterned into conductive traces that can stretch, bend, or deform while providing strain feedback through linear resistance changes. This innovative and standardized manufacturing method enables direct attachment of both flexible polyimide and FR4 boards for analog and digital communication. Durable for thousands of cycles, these circuits provide an ideal solution for a wide range of use cases requiring power or data communication.

This strain- sensitive LED Demonstrator uses Liquid Wire ™ fluid conductor to alter the luminosity of an LED as it is stretched. The metal gel™ strain sensor region is flanked by two boards; One used to provide power and ground, and the other containing the analog components to drive the LED. The analog components consist of a differential amplifier and a voltage regulator. The difference between the strain sensor voltage divider and the voltage regulator is amplified and drives a MOSFET to pull current through an LED. When the resistance of the strain sensor increases, it increases the difference between the positive input of the amplifier and the negative output, increasing the voltage and allowing more current to flow through the LED, which results in a higher luminosity of the LED.



Item #	Description
1	Analog component board (FR4)
2	Battery connector board (PI)
3	Metal Gel™ core
4	Board covers