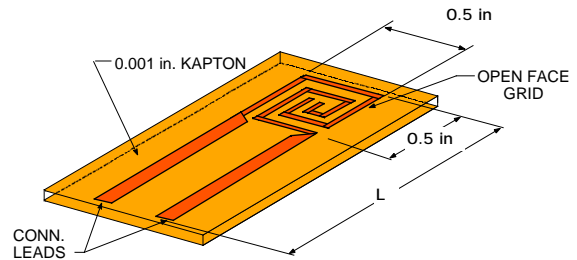


## DYNASEN INC. IONIZATION SWITCHES

### **MODEL OFADS-.5-EK, AIR DIELECTRIC**

Our model OFADS-.5-EK ionization switch (formally ADS-.5-EK) is an open-face arrangement comprised of a 0.0005 Inch-thick spiral-like Cu foil grid (sensor) and connecting lead assembly that is photo-etched and cemented upon a 0.001 inch-thick Kapton (Polyimide) substrate. The grid, is comprised of two long and narrow parallel conductors that are separated by a small gap but electrically disconnected, thus forming an OFF-ON switch system. Upon impact, say, by a metal object upon any part of its grid, a short-circuit state is instantaneously produced, thus providing a means to generate a useful electrical signal using a simple circuit arrangement.

The open-face switch finds its greatest use where accurate timing of electrical impulses are needed to trigger diagnostic equipment (Flash Radiography or others) without damaging the projectile or introducing unwanted debris into the field of view. Dynasen currently has tooling to produce open-face switches with lateral dimensions up to several inches. Other thicknesses of Kapton substrate are also available. Typical bias voltages with Dynasen's open-face switches are up to 150 volts. Upon ordering, please specify grid dimensions, conductor width and gap and overall length of assembly upon ordering.

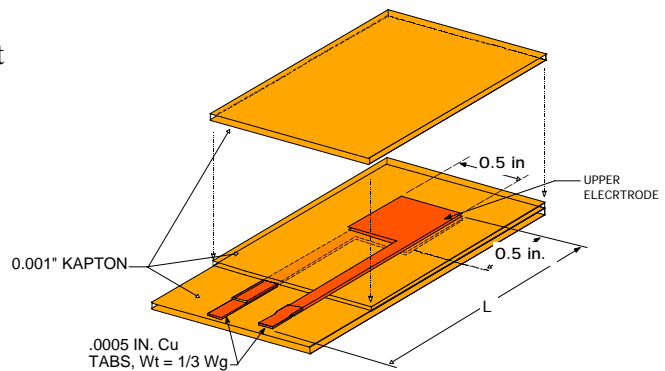


**OFADS-0.5-EK, SWITCH**

### **MODEL SDS-.25-EK, SOLID DIELECTRIC**

A high pressure ionization switch, our model SDS-.25-EK, is a solid dielectric arrangement that is identical in appearance to our low-pressure self-shorting switch. Such an arrangement is obtained by leaving the small air dielectric hole out of the assembly. As Kapton partially becomes a conductor at high pressures, states of partial or full short circuit will develop between the electrodes from the action of high stresses.

Bias voltages up to 1,000 volts can be used with our solid dielectric switches. They also can be made thinner (.0015 Inch) than the self-shorting switches, as they can be constructed using thinner polymer film stock and vapor deposited electrodes. Their main use is in high pressure environments, such as those encountered with high explosives, where minimal switch thickness is a requirement. Please specify lead length upon ordering.



**SDS-0.25-EK, SWITCH**

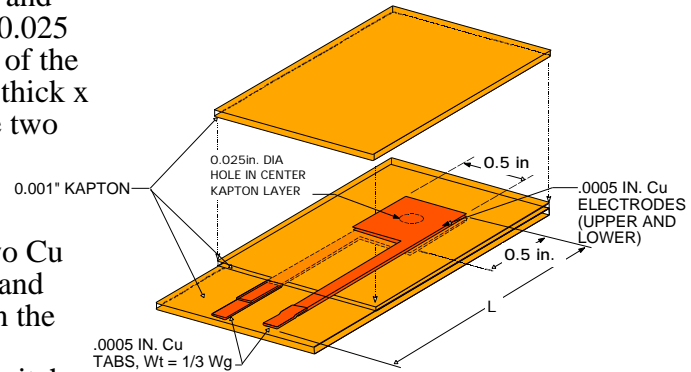
## DYNASEN INC. SELF-SHORTING & PIEZOELECTRIC SWITCHES

### MODEL ADS10-.025-EK, LOW-PRESSURE SELF-SHORTING .

Our model ADS10-.025-EK, also referred to as a low-pressure self-shorting switch, consists of two photo-etched 0.0005 Inch-thick Cu electrodes (.25x.25 inch in lateral sides) that are cemented on either sides of a .001 Inch-thick Kapton film and integrally connected to two output leads. A 0.025 Inch diameter hole is machined in the center of the Kapton insulator, thus forming a 0.001 Inch-thick x 0.025 Inch diameter air cylinder between the two Cu electrodes.

Application of a normal pressure (300 PSI Minimum) upon the switch will cause the two Cu electrodes to physically contact one another and thus to induce a state of short circuit between the output leads.

Typical use of Dynasen's ADS10-.025-EK switch involve scenarios where precise timing signals are needed and detectors' thicknesses are to be minimal in order to avoid inclusion effects upon the experiments. Its greatest application is when sharp timing signals are needed upon interaction of low pressure waves. Its construction emulates our self-shorting pin CA-1038. Typical bias voltages for our switch ADS-.025-EK are 10 to 150 volts. Please specify lead length upon ordering.

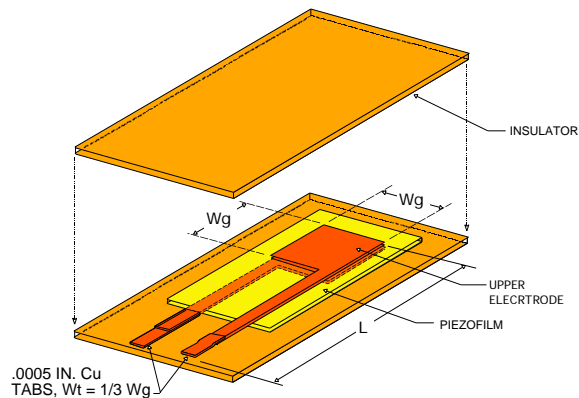


**ADS10-0.025-EK, SWITCH**

### MODEL PVF2S-.25-EK.

Our PVF2S-.25-EK switch is a piezoelectric arrangement that utilizes a small piece of pre-poled PVF2 material that is sandwiched between two electrodes. Its appearance and physical construction are nearly identical to those of our switches ADS10-.025-EK or SDS10 -.25-EK. They can also be made very thin (0.002 Inch) by using an all 0.0005 inch -thick polymer film construction.

Their utilization, of course, is rendered simple as they do not need an external excitation source, requiring only an output cable and terminated with a charge integrator device (see Dynasen catalog). Their pressure range of utilization is extended. Please specify lead length upon ordering.



**PVF2S-.25-EK, SWITCH**