

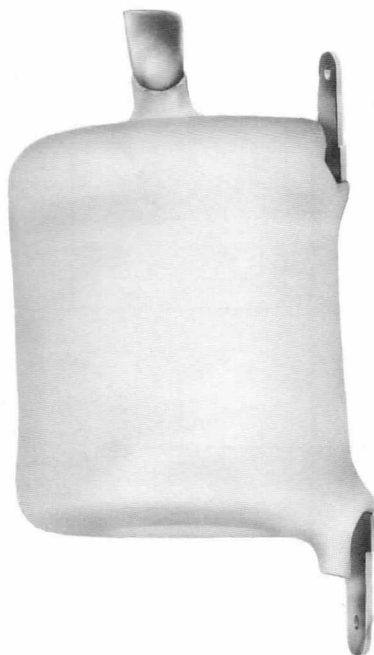
GL-7964

TRIGGERED SPARK GAP

MINIATURE SWITCHING DEVICE

3 KILOVOLTS

18 JOULES



The GL-7964 is a small, cold cathode, gaseous, triggered spark gap capable of switching 18 joules of energy at high voltages. Since the device does not require external energy to initiate the discharge its use permits both equipment cost reduction and savings in space through component elimination.

Mechanical features include rugged metal-ceramic construction, ability to withstand high shock and vibration conditions, and reliable operation over tem-

peratures ranging from as low as -80 to as high as $+200$ F.

The GL-7964 is especially designed to deliver short rapid pulses of current with minimum delay and jitter in applications where high hold-off voltages and low leakage currents exist.

Applications include switching single stored electrical energy systems into low impedance loads, or energy storage capacitors into resistive or inductive loads.

Electrical

Heater Voltage..... None Required

Mechanical

Mounting Position—Any

Net Weight..... 0.3 Ounces

Thermal

Ambient Temperature Range..... -80 to $+200$ F

MAXIMUM RATINGS

Interelectrode Leakage Resistance..... 10,000 Megohms
 Main Gap
 Operating Voltage..... 2.0 to 2.6 Kilovolts
 Hold-off Voltage
 Indefinite..... 3 Kilovolts
 10 Minutes..... 3.6 Kilovolts
 Peak Current
 Ringing*, maximum..... 1500 Amperes
 Unidirectional Pulse, maximum..... 4000 Amperes
 Pulse Duration, maximum..... 10 Microseconds
 Dissipation, approximate..... 60 Volts
 Delay Time† @ V APP 2600 volts..... 1.5 Microseconds
 Jitter‡..... 0.5 Microseconds

Trigger
 Firing Voltage, minimum§..... 5000 Volts
 Peak Firing Current, maximum..... 5 Amperes
 Firing Pulse Duration, maximum**..... 10 Microseconds

* 1500 amperes for the first half cycle of a 10–12 kc ringing frequency, circuit should be sufficiently damped to pass only 5–6 cycles.

† Main gap delay time is defined as the interval of time between application of $\frac{1}{2}$ maximum trigger voltage and initiation of $\frac{1}{2}$ maximum current conduction.

‡ Main gap jitter is defined as the variation in main-gap delay time.

§ Breakdown to occur on leading edge of pulse having a rise time of 0.5 microseconds where rise time is defined as the interval of time between 10 percent and 90 percent of the trigger voltage pulse.

** Measured at a point between 10 to 90 percent of initial rise to a point 90 percent of current maximum on trailing edge of pulse.

