



ELECTRON TUBE DIVISION

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

BOX 100 EASTON, PA 18043

F-820
F-821
F-822A
F-823
TRIGGERED
SPARK GAPS

The triggered spark gaps are designed for electronic crowbar applications and for energy transfer. The ceramic-metal device is compact, rugged and will operate over a wide range of temperatures without heater power.

The gaps contain two primary high power electrodes and a trigger electrode which is generally fired through a step-up pulse transformer by a simple low energy pulse. The trigger probe and main electrodes are processed from basic materials which possess special refractory characteristics to insure long life and reliable performance.

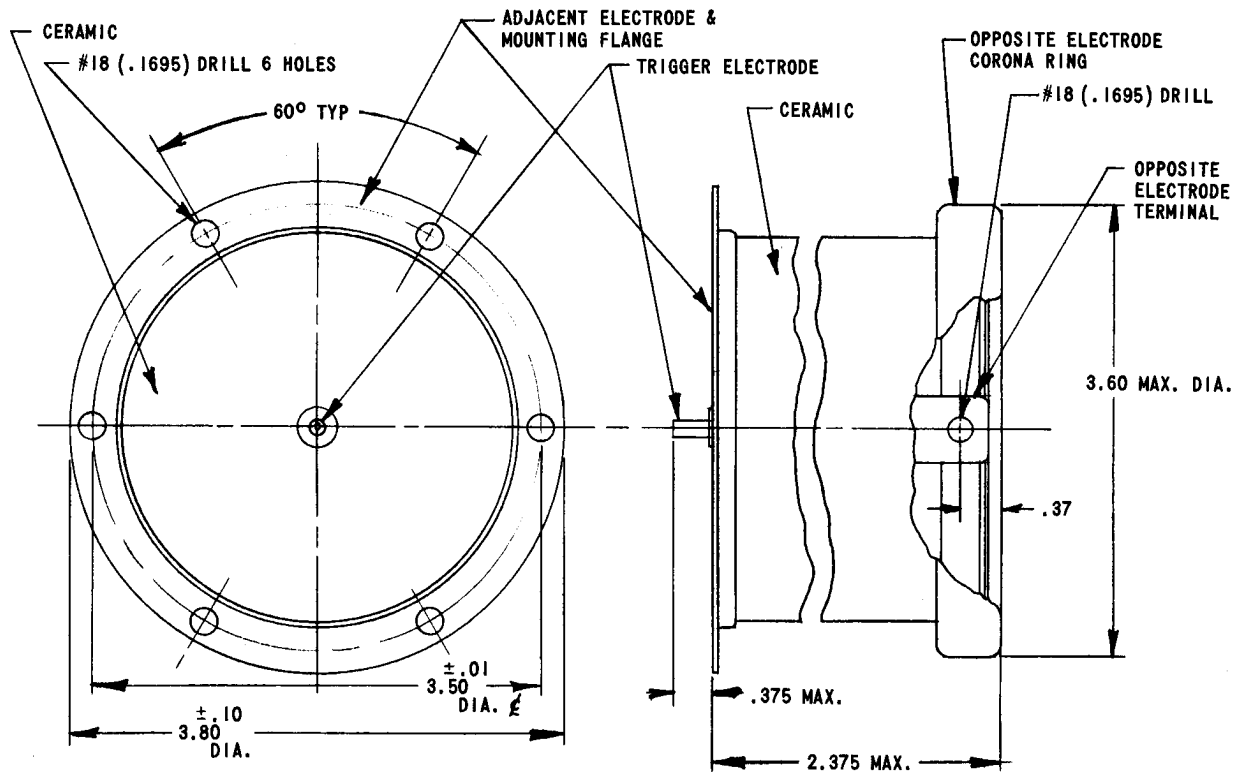
Particular care has been taken in the internal design of the spark gaps whereby E field stresses are minimized to provide maximum reliable high voltage hold-off capability.

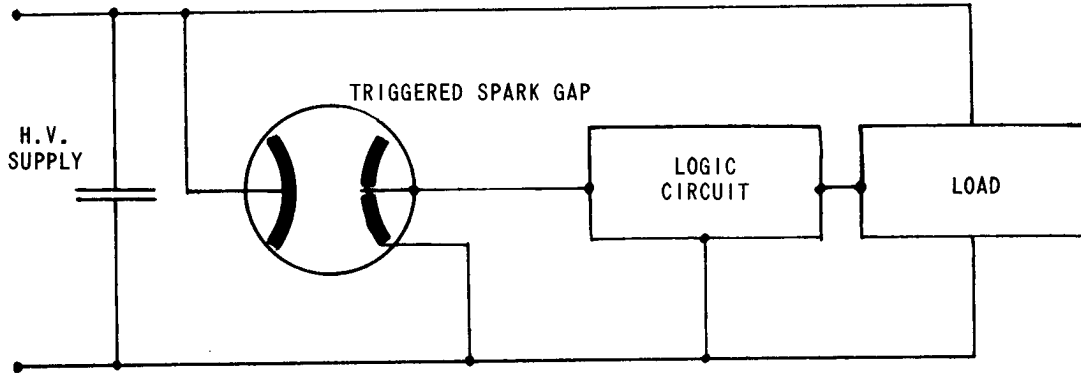
<u>ELECTRICAL DATA</u>	<u>F-820</u>	<u>F-821</u>	<u>F-822A</u>	<u>F-823</u>	
Operating Range	10.0-24.0	6.0-16.0	12.0-36.5*	2.0-5.0	KV
Static Breakdown Potential	30.0	19.0	42.0*	7.5	KV
Trigger Potential	15.0	15.0	20.0	15.0	KV
Energy Discharge	2500	2500	2500	2500	Joules
Peak Current	100,000	100,000	100,000	100,000	a
Delay Time	0.05	0.04	0.05	0.08	usec

* - The F-822A will hold off 30KV without external breakdown. For voltages higher than this, the gap must be immersed in oil or freon or sulfur hexafluoride atmosphere.

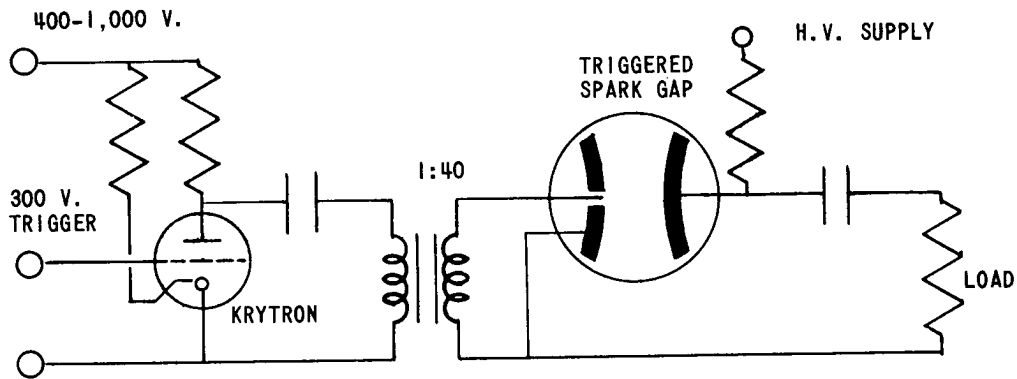
Optimum mode of operation:

Trigger pulse positive and opposite electrode negative. (Mode A)

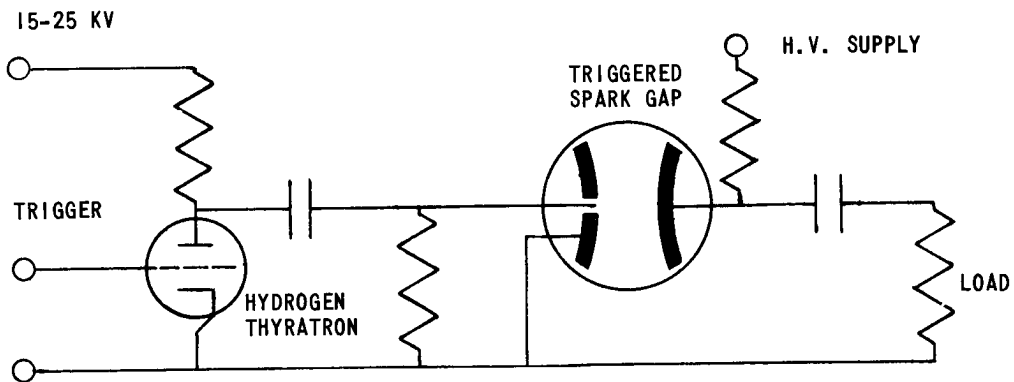




TYPICAL CROWBAR CIRCUIT FOR PROTECTION OF MICROWAVE TUBES AND OTHER CIRCUIT COMPONENTS FROM RF OVERLOAD OR ARCING



CONVENTIONAL TRIGGER AND DISCHARGE CIRCUIT



FAST RISE THYRATRON TRIGGER CIRCUIT