

GL-7171

IGNITRON

CAPACITOR - DISCHARGE SERVICE

DC SHORT-CIRCUITING-SWITCH SERVICE

PULSED

20,000 AMPERES PEAK

DESCRIPTION AND RATING

The GL-7171 is a sealed, stainless-steel jacketed ignitron for use as a switch in capacitor-discharge circuits operating up to 10,000 volts. In this service the tube will carry peak currents up to 20,000 amperes.

TECHNICAL INFORMATION

GENERAL

Electrical

Cathode Excitation - Cyclic
Cathode Spot Starting - Ignitor
Number of Electrodes
Main Anodes. . . . . 1
Main Cathodes. . . . . 1
Ignitors . . . . . 1

Arc Drop
At 4000 Amperes. . . . . 20 Volts
At 30,000 Amperes. . . . . 55 Volts
Critical Anode Starting Voltage, minimum . . . . . 100 Volts

Ignitor Ratings
Separate Excitation
Ignitor Voltage
Forward Open Circuit . . . . . 1500 - 3000 Volts
Inverse, maximum . . . . . 5 5 Volts
Ignitor Current Short Circuit. . . . . 200 - 250 Amperes
Length of Firing Pulse, sine wave. . . . . 5 - 10 Microseconds

Anode Firing
Ignitor Voltage
Forward, maximum . . . . . 3000 Volts
Inverse, maximum . . . . . 5 Volts
Peak Ignitor Current . . . . . 200 - 250 Amperes

Mechanical

Envelope Material - Stainless Steel
Mounting Position - Axis Vertical, Anode Lead Up
Net Weight . . . . . 2 Pounds

Thermal

Type of Cooling - Convection
Envelope Temperature . . . . . 20 - 40 C

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MAXIMUM RATINGS AND TYPICAL OPERATION

Capacitor-Discharge Service, Pulse Duty, Sinusoidal Current

Peak Anode Voltage		
Forward. . . . .	10,000	Volts
Inverse. . . . .	10,000	Volts
Anode Current		
Peak . . . . .	20,000	Amperes
Average. . . . .	0.1	Amperes
Maximum Averaging Time . . . . .	1	Cycles
Fault. . . . .	20,000	Amperes
Maximum Duration . . . . .	0.002	Seconds

DC Short-Circuiting Switch Service

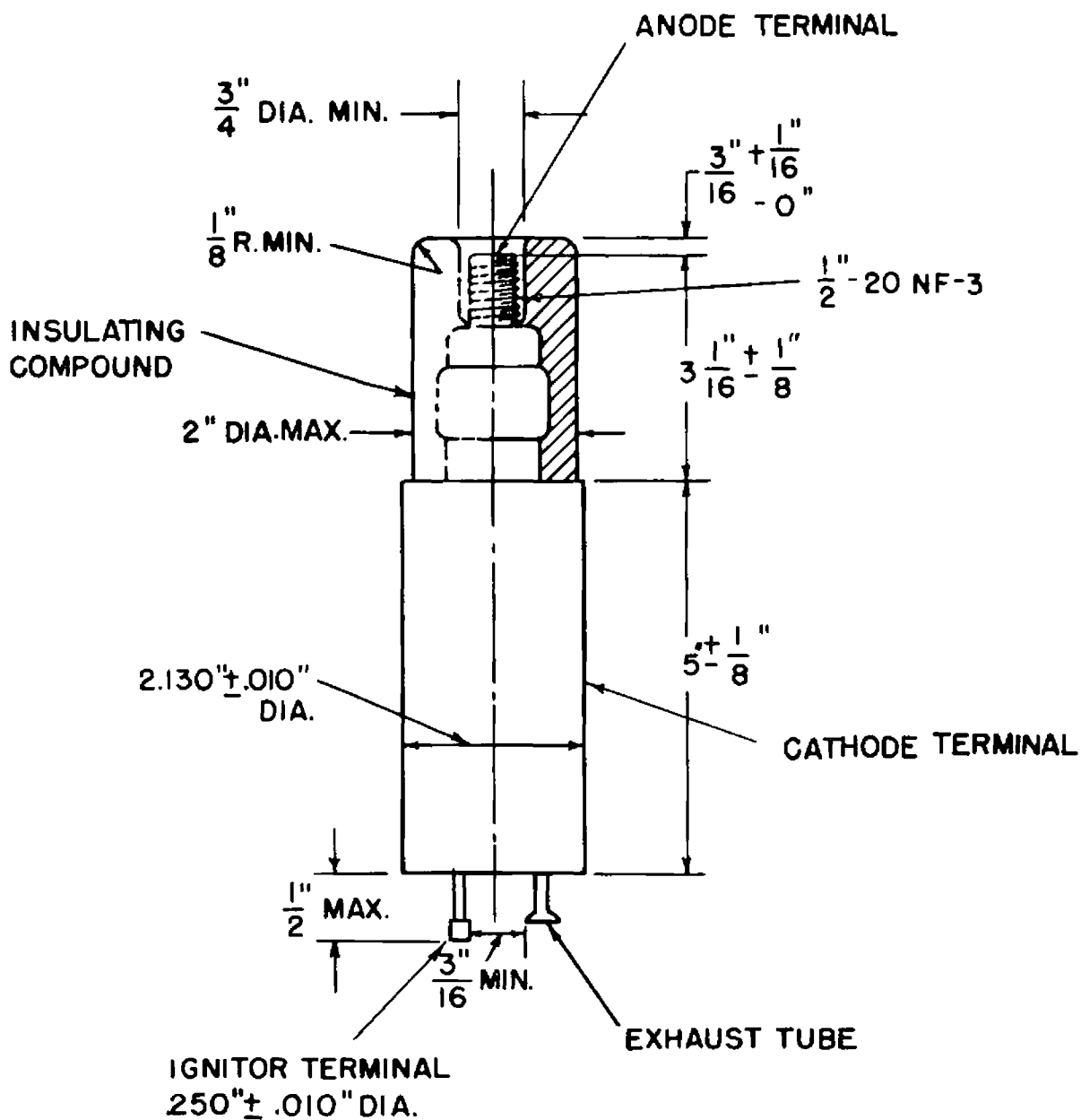
Peak Anode Voltage		
Forward. . . . .	10,000	Volts
Inverse. . . . .	10,000	Volts
Anode Current		
Peak . . . . .	20,000	Amperes
Average. . . . .	0.25	Amperes
Fault. . . . .	20,000	Amperes
Maximum Duration . . . . .	0.002	Seconds
Frequency of Current Conduction Periods, maximum . . . . .	1	Per Minute
Ionization Time. . . . .	0.5	Microseconds

Electronic Components Division

GENERAL ELECTRIC COMPANY

Schenectady 5, N. Y.

OUTLINE



OUTLINE  
GL-7171 IGNITRON

<u>ITEM</u>	<u>AS REGISTERED</u>	<u>AS PROPOSED</u>
<u>Thermal</u>		
Envelope Temperature	20 - 40°C	Delete
Temperature		
Ambient	---	25°C
Cathode Header	---	35°C
Anode Header	---	55°C
<u>Capacitor-Discharge Service, DC Short-Circuiting Switch Service</u>		
Anode Current		
Peak	20,000	35,000 amps
Fault	20,000	35,000 amps
Rate of Rise		
Maximum	---	5600 amps per usec
Minimum	---	1400 amps per usec
<u>Outline Drawing</u>		
Remove Insulating Compound and Reference thereto		
Threaded Anode Terminal Height	---	1-1/8 inches
Height from Top of Envelope to Anode-Terminal Top	3-1/16 ± 1/8	3 + 1/8 inches
Anode Bushing Diameter	---	1-1/16 inches
Bottom of Tube to End of Exhaust Tube	---	1/2 max. inches
Bottom of Tube to End of Ignitor Terminal	1/2	1/4 max. inches
Length of Ignitor Terminal	---	1/4 ± 1/32 inches