IGNITRON

CAPACITOR - DISCHARGE SERVICE

PULSED

DC SHORT-CIRCUITING-SWITCH SERVICE

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

from JETEC release #2203, May 26, 1958

MAXIMUM RATINGS AND TYPICAL OPERATION

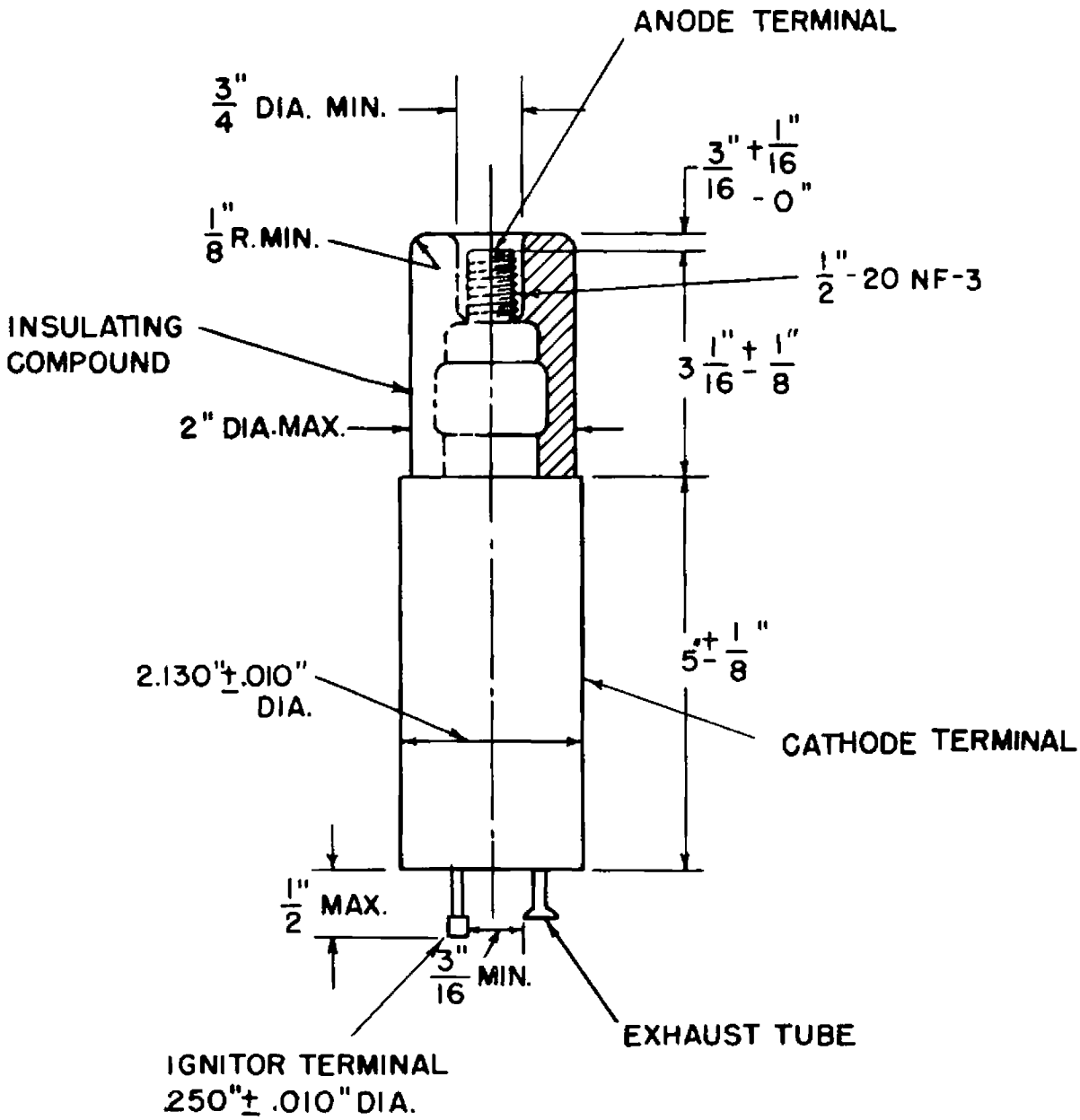
Capacitor-Discharge Service, Pulse Duty, Sinusoidal Current

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

OUTLINE



OUTLINE
GL-7171 IGNITRON

Aug. 4, 1958
Release No. 2203A
Type 7171

ITEM	AS REGISTERED	AS PROPOSED
Thermal		
Envelope Temperature	20 - 40°C	Delete
Temperature		
Ambient	---	25°C
Cathode Header	---	35°C
Anode Header	---	55°C
Capacitor-Discharge Service, DC Short-Circuiting Switch Service		
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
Outline Drawing		
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