CV6022ØØ

NATIONAL

NL-CV6022

HYDROGEN THYRATRON

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The NL-CV6022 is a unipotential cathode, three element hydrogen thyratron designed for network discharge service. It is suitable for producing pulse outputs of more than 2 megawatts at an average power level of more than 1.6 kilowatts in such service. The NL-CV6022 features high peak voltage and current ratings in a compact size, low time jitter, and a hydrogen reservoir to maintain the hydrogen pressure throughout the useful life of the tube.

Electrical	Nom.	Min.	Max.	
Heater Voltage	6.3	5.9	6.7	Volts AC
Heater Current (At 6.3 volts)	9.6	11.6		Amperes
Minimum Heating Time		5		Minutes

Mechanical	
Mounting Position	Any
Base	Super Jumbo 4-Pin with Bayonet A4-18 with Ceramic Insert
Anode Cap	C1-43, Medium, with Corona Shield Cooling (Note 1)
Net Weight	12 Ounces
Dimensions	See Outline

Ratings			
Max. Peak Anode Voltage, Forward	16.0		Kilovolts
Max. Peak Anode Voltage, Inverse (Note 2)	16.0		Kilovolts
Min. Anode Supply Voltage	4.5		Kilovolts DC
Max. Peak Anode Current	325		Amperes
Max. Average Anode Current	200		Milliamperes
Max. RMS Anode Current (Note 3)	6.3		Amperes AC
Max. EPY x IB x PRR	3.2×10^9		
Max. Anode Current Rate of Rise	1500		Amperes/Microsecond
Peak Trigger Voltage (Note 4)			
Max. Peak Inverse Trigger Voltage	200		Volts
	Initial Limit	End of Life Limit	
Max. Anode Delay Time (Note 5)	0.65	0.70	Microsecond
Max. Anode Delay Time Drift	0.10	0.10	Microsecond
Max. Time Jitter (Note 6)	0.005	0.01	Microsecond
Ambient Temperature	-50° to	+90	°C
Shock Rating	13° Navy (Flyweight) Shock Machine		

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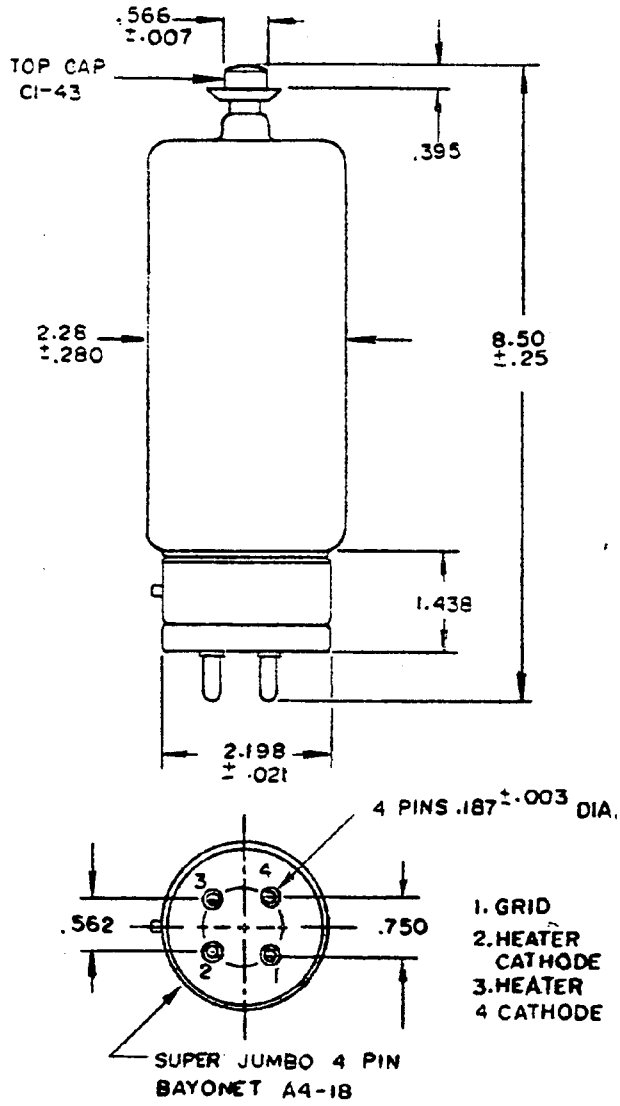

Two typical Operations as Pulse Modulator, DC Resonant Charging

Peak Network Voltage	16.0	12.0 Kilovolts
Pulse Repetition Rate	1000	500 Pulses/Sec
Pulse Length	1.0	1.5 Microsec.
Pulse Forming Network Impedance	47.6	25 Ohms
Trigger Voltage	200	200 Volts
Peak Power Output (Resistive Load 92°'Zn)	1.31	1.40 Megawatt
Peak Anode Current	175	250 Amperes
Average Anode Current (DC)	0.18	0.19 Amperes

NOTE 1: Cooling permitted. However, there shall be no air blast directly on the bulb.

NOTE 2: During the first 25 microseconds after conduction, the peak inverse anode voltage shall not exceed 5 KV.

NOTE 3: The root mean square anode current shall be computed as the square root of the product of peak current and the average current.

NOTE 4: The pulse produced by the driver circuit shall have the following characteristics when viewed at the NL-CV6022 socket with the tube disconnected:

A. Amplitude..... 200-300 Volts
B. Duration..... 2 Microseconds (at 70% Points)
C. Rate of Rise..... 200 Volts/Microsec. (min.)
D. Impedance..... 50-500 Ohms

The limits of anode time delay and anode time jitter are based on the minimum trigger. Using the highest permissible trigger voltage and lowest trigger source impedance materially reduces these values below the limits specified.

NOTE 5: The time of anode delay is measured between the 26 percent point on the rising portion of the unloaded grid voltage pulse and the point at which evidence of anode conduction first appears on the loaded grid pulse.

NOTE 6: Time jitter is measured at the 50 percent point on the anode current pulse.