



GD1159 Thyatron Specification

Anode Characteristics

Peak Forward Anode Voltage:	33kV max ^[1]
Peak Reverse Anode Voltage:	33kV max ^[2]
Peak Forward Anode Current:	1000A
Average Anode Current:	
Continuous operation:	1.25A max
Intermittent operation:	2.2 A max
Anode Current Rate of Rise:	5kA/μs ^[3]

Grid 2 Drive

Unloaded Drive Pulse Voltage:	500V~1000V
Driver Circuit Output Impedance:	50Ω~ 500Ω
Rate of rise of grid 2 pulse:	1kV/μs min ^[3]
Driver Pulse Duration:	1 μs min
Loaded Grid 2 Bias Voltage:	0 V~ -150 V
Grid 2 Pulse Delay:	0.5μs ~ 3μs
Peak Inverse Grid 2 Voltage:	450V max

Grid 1 Pulse Drive

Unload Grid 1 Drive Pulse Voltage:	300V ~ 1000V ^[4]
Peak Grid 1 Drive Current:	0.3A~ 1A ^[5]
Grid 1 Pulse Duration:	2us min
Rate of Rise of Grid 1 Pulse:	1kV/us min ^[3]
Peak Inverse Grid 1 Voltage:	450V max

Grid 1 DC Drive

DC Grid 1Unloaded Priming Voltage:	75V~ 150V
DC Grid 1 Priming Current:	50mA ~ 100 mA

Electrical

Cathode Heater Voltage:	6.3±5%V
Cathode Heater Current (6.3V):	20A~25A
Preheating Time:	10 min.

Mechanical

Outline and Dimension:	See outline drawing
Net weight:	About 1500g
Mounting Position:	Pin ^[6]
Cooling Way:	Natural or forced-air cooling ^[7]

Characteristics

Critical anode voltage for conduction:	2.0 kV max
Anode Delay Time:	250ns max ^[8]
Anode Delay Time Drift:	50ns max ^[9]
Time Jitter:	5ns max

Environmental

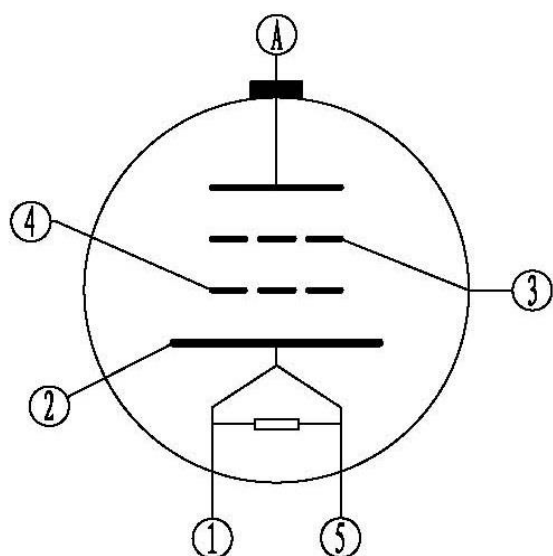
Ambient Temperature:	-50℃ ~ +90℃
Altitude:	3km



Notes

- [1] It is the maximum peak voltage under the condition of resonant charging.
- [2] Peak inverse anode voltage (include peak) must not exceed 10KV within 25 μ s after impulse current discharge finished, otherwise it will damage the grid and cause spark inside the tube and shorten the working life.
- [3] This rate of rise refers to that part of the leading edge of the pulse between 26% and 70% of the pulse amplitude.
- [4] Measured with respect to cathode. Pre-pulsing of grid 1 is recommended for high rate of rise of current applications.
- [5] The higher grid 1 is pulsed, the larger must the grid 2 negative bias be, to prevent the tube firing on the grid 1 pulse.
- [6] The tube must be fitted using its corresponding 5-pin board.
- [7] If the tube is cooled by forced-air, an air flow of at least 2.83 m³/min is required.
- [8] The time interval between the instant at which the rising unloaded grid 2 pulse reaches 26% of its pulse amplitude and the instant when anode conduction takes place.
- [9] Anode firing delay time drift, the drift in delay time over a period from 10 seconds to 10 minutes after reaching full voltage, its anode firing delays time of change.

Electrodes Connection Schematic Diagram



Pin	Electrode
1	Heater
2	Cathode
3	Grid 2
4	Grid 1
5	Heater
A	Anode



Outline Drawing

