



GL109 Specification

Anode Parameter

Peak forward anode voltage:	12 kV
Peak anode current:	3000 A
Peak inverse anode current:	1500 A
Average anode current:	100 m A
Rate of rise of anode current:	50k A/ μ s (see notes 1)
Anode heating factor:	18×10^9 VApps
Maximum pulse power:	18MW

Grid 2 drive

Unloaded grid 2 drive pulse voltage:	500V~1500V
Grid 2 pulse duration:	1 μ s~2 μ s
Rate of rise of grid 2 pulse:	5kV/ μ s
Peak inverse grid 2 voltage:	200V max
Loaded grid 2 bias voltage:	0V~-150V
Forward impedance of grid 2 circuit:	50 Ω ~200 Ω
Grid 2 pulse delay:	0.5 μ s~2 μ s

Grid 1 Pulse drive

Unload grid 1 drive pulse voltage:	500V~1500 V
Grid 1 pulse duration:	2 μ s min
Rate of rise of grid 1 pulse:	1kV/ μ s
Peak inverse grid 1 voltage:	200V max
Drive current:	1A~3A

Grid 1 DC drive

DC grid 1 unloaded priming voltage :	75V~150 V
DC grid 1 priming current:	50mA~150mA

Heater

Cathode heater voltage:	6.3V $\pm$ 5%V ac
Cathode heater current:	5.0A~8.0A
Reservoir heater voltage:	6.3V $\pm$ 5%V ac
Reservoir heater current:	1.0A~1.5A
Minimum heater time:	5min

Mechanical

Mounting position:	Any (see notes 2)
Net weight:	500g approx
Dimension and tube connections:	See outline
Cooling way:	Forced-air and natural (see notes 3)

Notes

1. This rate of rise refers to that part of the leading edge of the pulse between 26% and 70% of the pulse amplitude.
2. The tube must be mounted by means of its cathode mounting flange.
3. The temperature of the envelope must not exceed the value specified below.

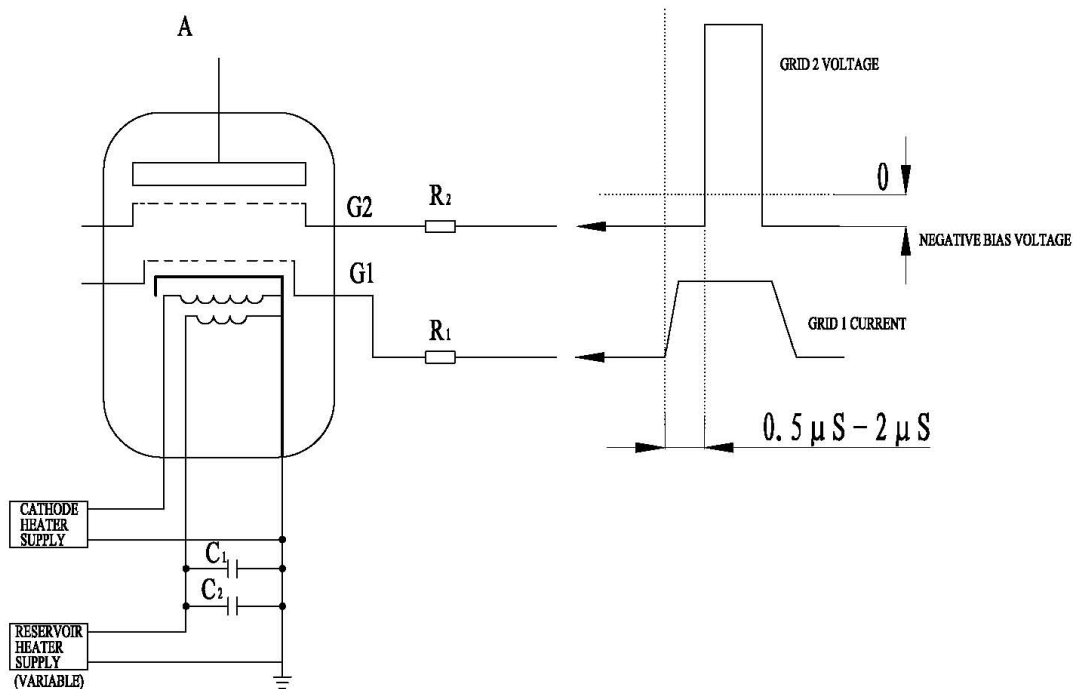
Ceramic, anode and grids.....150 $^{\circ}$ C

Cathode mounting flange and base.....120 $^{\circ}$ C

The technical drawing illustrates the GLVAC GL109 electron gun. The side view (top) shows a cylindrical assembly with an anode at the top and a cathode mounting flange at the bottom. Key dimensions include a total height of 105.8 mm, a cathode height of 72 mm, and a grid height of 81.3 mm. The anode has a diameter of $\phi 51$, and the grid has a diameter of $\phi 57.8$. The cathode mounting flange has a diameter of $\phi 51$. The cathode heater lead (yellow) and reservoir heater lead (red) are both 240 mm long. The front view (bottom) shows a circular flange with a diameter of $\phi 82$ and four mounting holes with a diameter of $\phi 4.7$. The central part of the front view shows the grid (A) with a diameter of $\phi 5$, the cathode (HTR) with a diameter of $\phi 69.85$, and the reservoir (RES) with a diameter of $\phi 5$. The front view also shows the grid (A) with a diameter of $\phi 5$ and the cathode (HTR) with a diameter of $\phi 69.85$.



SCHEMATIC DIAGRAM



- R₁, Grid 1 series resistor. 12 W vitreous enameled wire wound is recommended, of a total impedance to match the grid 1 drive pulse circuit.
- R₂, Grid 2 series resistor. 12 W vitreous enameled wire wound is recommended, of a total impedance to match the grid 2 drive pulse circuit.
- C₁, Reservoir protection capacitors, 1000pF low inductance with a voltage rating ≥ 500 V. (e . g . ceramic)
- C₂, Reservoir protection capacitors, 1 μ F with a voltage rating ≥ 500 V. (e . g . polycarbonate or polypropylene)