

## 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 mA
Rate of rise of anode current:	50k A/ $\mu$ s (see notes 1)
Anode heating factor:	$18 \times 10^9$ VApps
Maximum pulse power:	18MW

### Grid 2 drive

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

### Grid 1 Pulse drive

Unload grid 1 drive pulse voltage:	500V~1500 V
Grid 1 pulse duration:	2 $\mu$ s min
Rate of rise of grid 1 pulse:	1kV/ $\mu$ 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

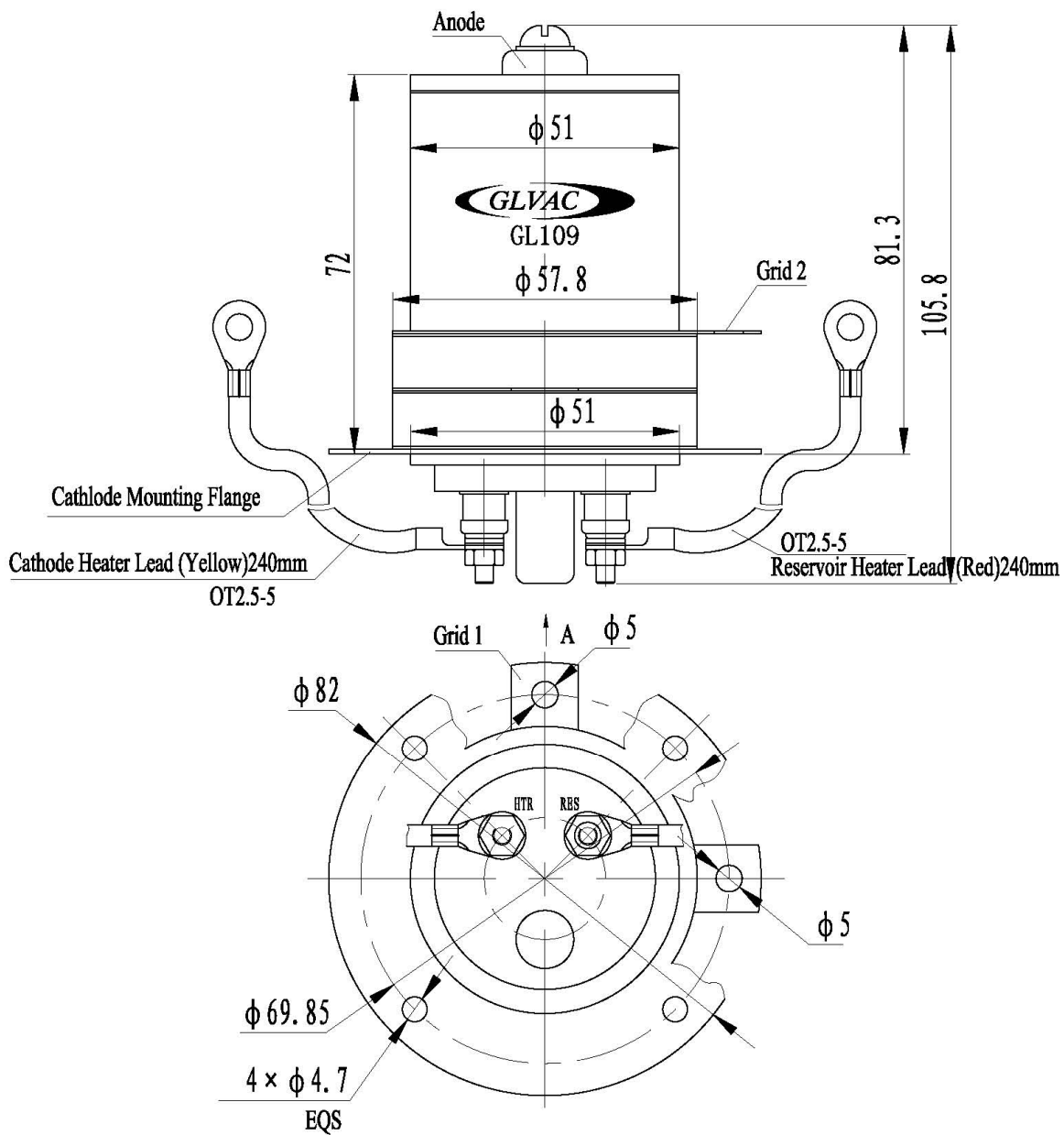
Mounting position:	Any (see notes 2)
Net weight:	500g approx
Dimension and tube connections:	See outline
Cooling way:	Forced-air and natural (see notes 3)

### Notes

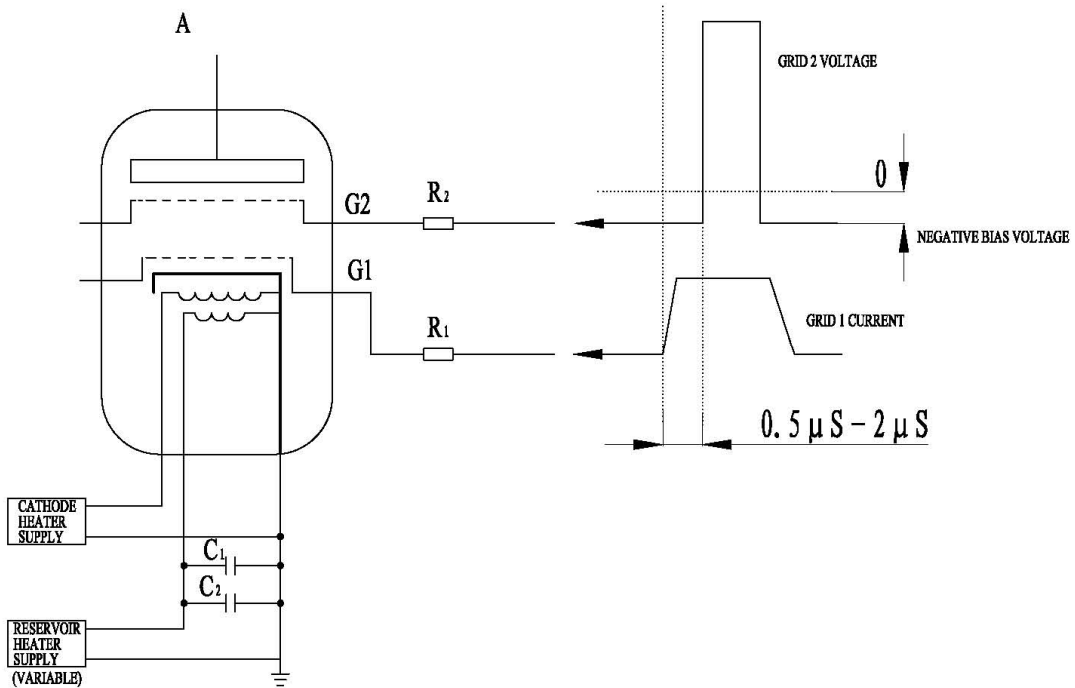
1. This rate of rise refers to that part of the leading edge of the pulse between 26% and 70% of the pulse amplitude.
2. The tube must be mounted by means of its cathode mounting flange.
3. The temperature of the envelope must not exceed the value specified below.
 

Ceramic, anode and grids.....	150 $^{\circ}$ C
Cathode mounting flange and base.....	120 $^{\circ}$ C

**OUTLINE**



**SCHEMATIC DIAGRAM**



- R<sub>1</sub>, Grid 1 series resistor. 12 W vitreous enameled wire wound is recommended, of a total impedance to match the grid 1 drive pulse circuit.
- R<sub>2</sub>, Grid 2 series resistor. 12 W vitreous enameled wire wound is recommended, of a total impedance to match the grid 2 drive pulse circuit.
- C<sub>1</sub>, Reservoir protection capacitors, 1000pF low inductance with a voltage rating  $\geq 500$ V. ( e . g . ceramic)
- C<sub>2</sub>, Reservoir protection capacitors, 1  $\mu$  F with a voltage rating  $\geq 500$ V. ( e . g . polycarbonate or polypropylene)