



## 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 [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:	5A~7A
Reservoir heater voltage:	6.3V $\pm$ 5%V ac
Reservoir heater current:	1.0A~1.5A
Minimum heater time:	5min

### Mechanical

Mounting position:	Any [2]
Net weight:	500g approx
Dimension and tube connections:	See outline
Cooling way:	Forced-air and natural [3]

### Note

[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.

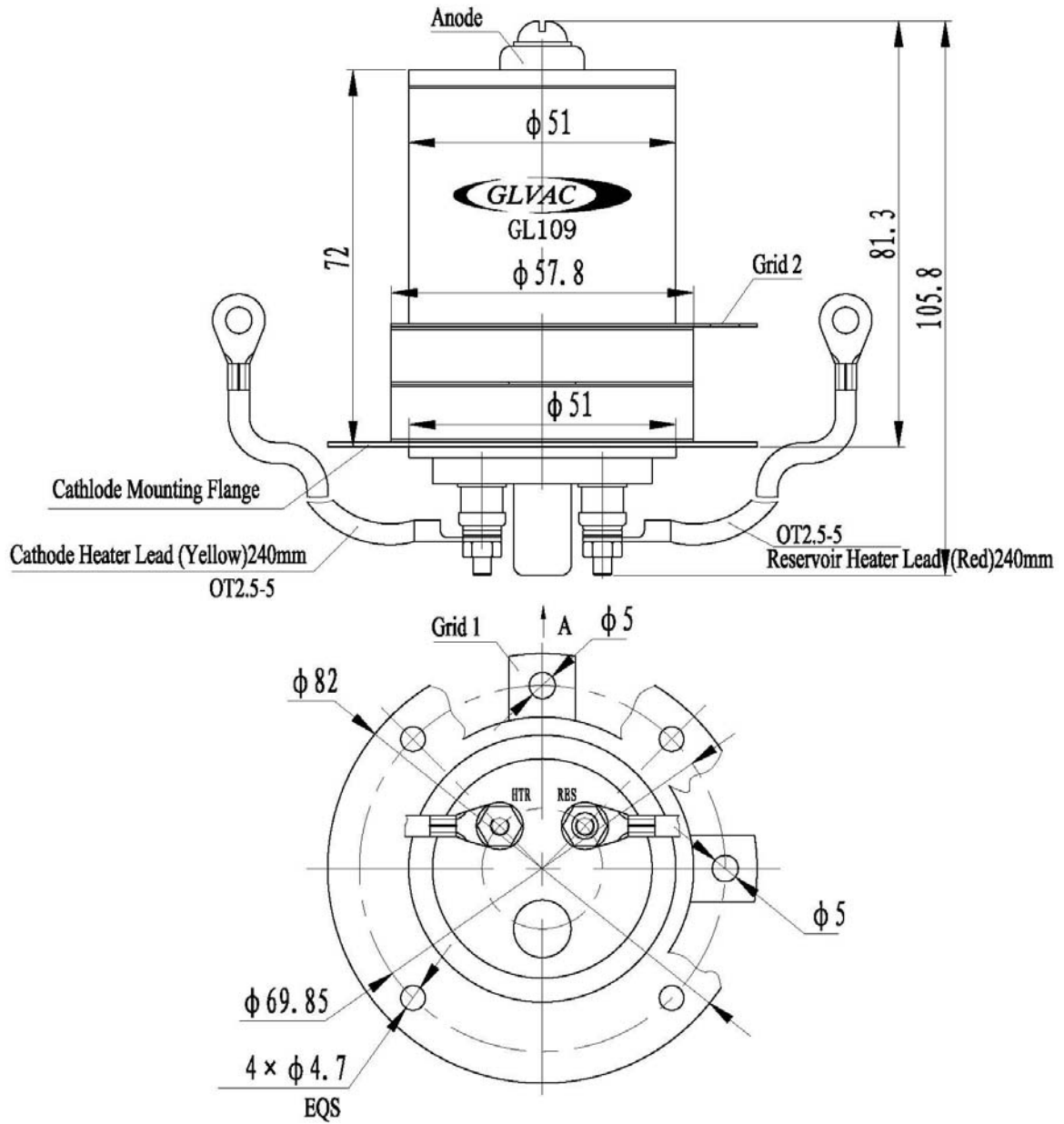
[3] The temperature of the envelope must not exceed the value specified below.

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

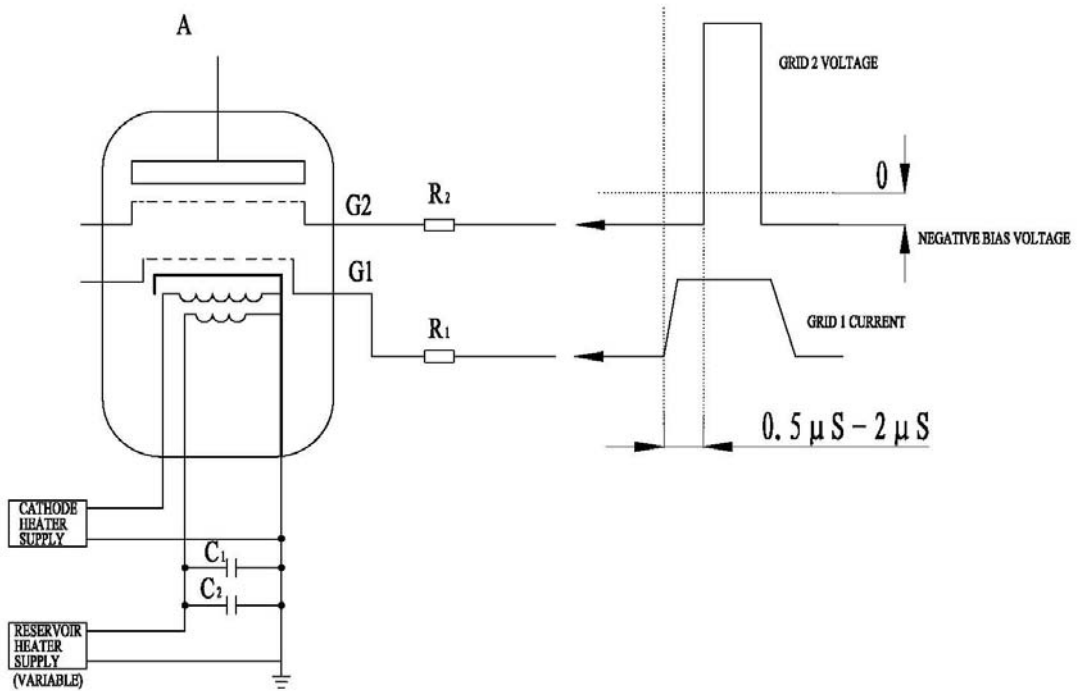
Cathode mounting flange and base.....120 $^{\circ}$ C



## 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  $\geq 500V$ . ( e . g . ceramic)
- C<sub>2</sub>, Reservoir protection capacitors, 1  $\mu$  F with a voltage rating  $\geq 500V$ . ( e . g . polycarbonate or polypropylene)