

## 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:          | $18 \times 10^9$ VApp          |
| 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±5%V ac |
| Cathode heater current:   | 5.0A~8.0A   |
| Reservoir heater voltage: | 6.3V±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°C

Cathode mounting flange and base.....120°C



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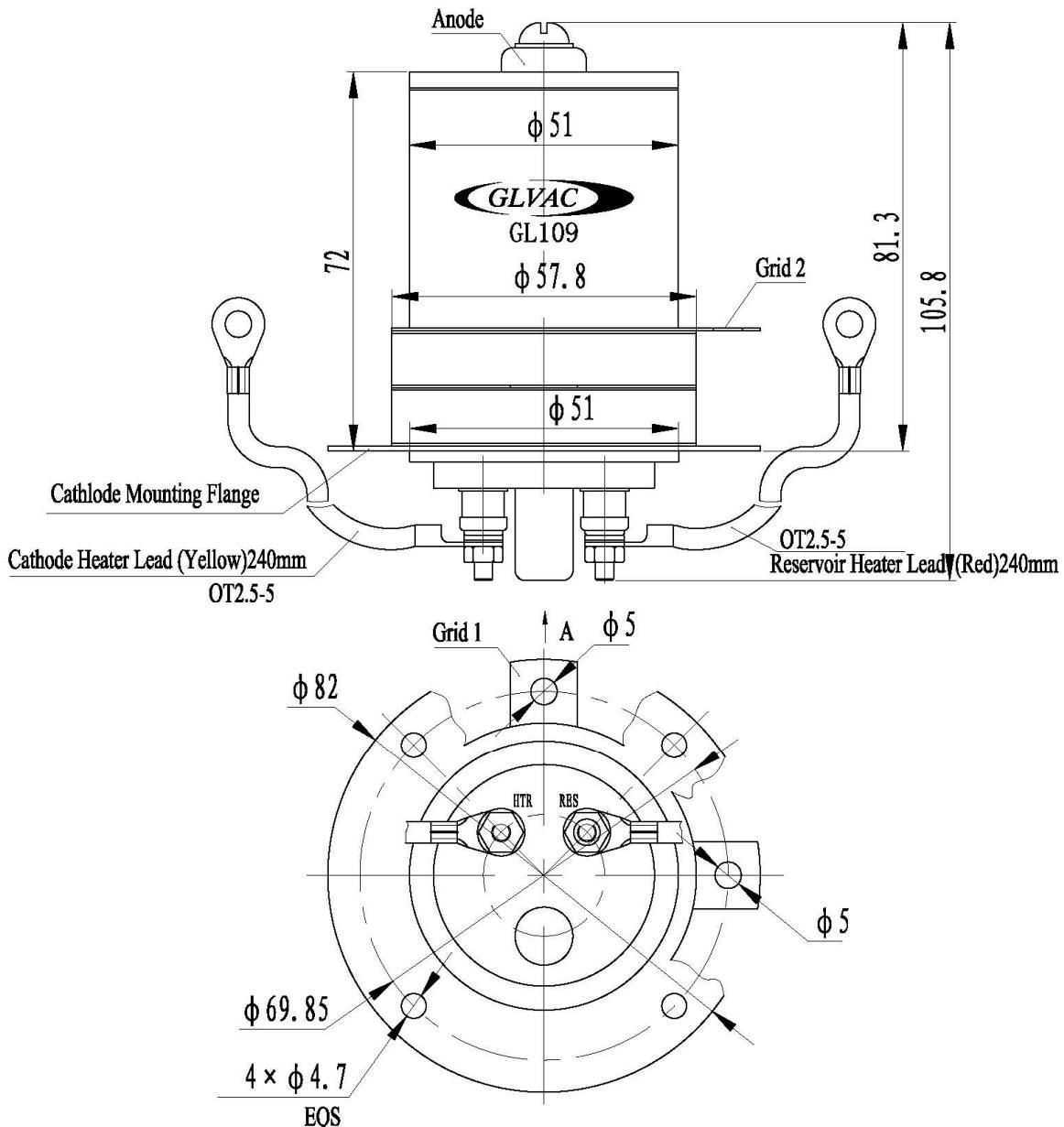
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## OUTLINE





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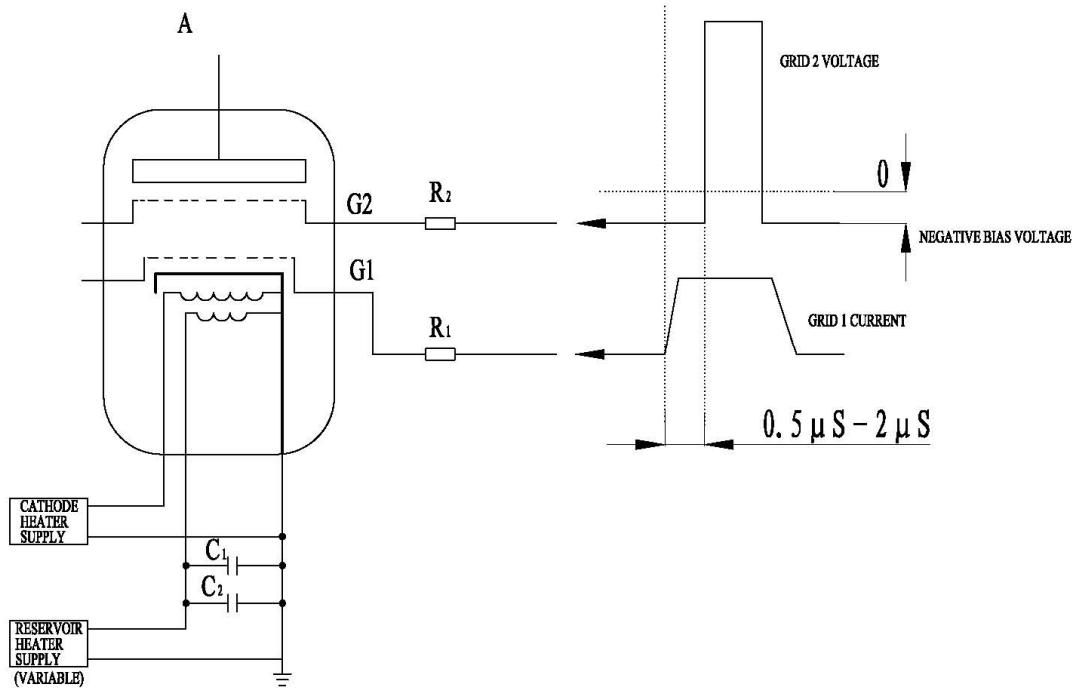
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## SCHEMATIC DIAGRAM



- 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)