



GL1689 Thyatron Specification

GL1689 is a high voltage ceramic-metal structure thyatron, which has the characteristics of high peak anode current and high peak pulse power. It can be mounted in any position by means of the grid mounting flange. Cooling is achieved by natural convection, forced air, or dielectric fluid immersion.

Anode Parameter

Peak forward anode voltage:	35kV max
Peak inverse anode voltage:	see note 1
Peak anode current:	2000A max (tp=5 μ s)
Peak anode current:	20000A max (tp< 1 μ s, see note 2)
Average anode current:	0.5A max
RMS anode current:	40A max (see note 3)

Grid drive

Unloaded grid drive pulse voltage:	750V~1500V
Grid pulse duration:	2 μ s (1 μ s min)
Rate of rise of grid pulse:	2kV/ μ s min
Impedance of grid circuit:	50 Ω ~200 Ω
Loaded grid bias voltage:	0V~-150V

Electrical parameters

Cathode heater voltage:	6.3 $\pm$ 5%V ac
Cathode heater current:	17A~22A
Reservoir heater voltage:	6.3 $\pm$ 5%V ac (see note 4)
Reservoir heater current:	2.5A~3.5A
Minimum heater time:	5min (min)
Capacity between anode and grid:	16 pF
Capacity between grid cathode:	32 pF

Mechanical

Mounting position:	Any (see note 5)
Weight	About 1.5 kg
Dimension:	See outline
Cooling way:	Forced-air, natural, dielectric fluid immersion

Environmental

Ambient temperature:	-55 $^{\circ}$ C~+125 $^{\circ}$ C
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Typical characteristics

Critical conduction anode voltage:	2000V max
Anode delay time:	500ns max
Anode delay time drift:	150 ns max
Time jitter:	5 ns max

Notes

1. 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.
2. The 20000A peak current rating presumes sub-microsecond pulse application.
3. The root mean square anode current is computed as the square root of the product of peak current and the average current.
4. The recommended reservoir voltage is marked on the reservoir lead and is suitable for most applications.
5. The tube must be mounted by means of its grid mounting flange.



Outline Drawing

