



Hot Cathode Mercury Vapour Thyatron

3V/500A
(4049GD)

4049GD

CATHODE.

Oxide-coated filament, Shielded

Voltage	4	V
Nominal current	11	A

DIMENSIONS.

Maximum overall length	280	mm.
Maximum bulb diameter	62	mm.
Base, Large American 4 pin.		
Net weight.		

MAXIMUM RATINGS.

Maximum peak inverse voltage	20	kV
Maximum peak anode current	5	A
Maximum average anode current	1.25	A
Condensed mercury temperature range with forced ventilation	20°C—65°C	

The above ratings apply to operation with a choke input filter and a supply frequency of 50 c/s.

MAXIMUM PEAK INVERSE VOLTAGE RATINGS.

Natural Ventilation	20°C—55°C	20°C—40°C.
Forced Ventilation	20°—65°	20°C—55°C.
Peak Inverse Voltage	Less than 10 kV.	10 kV. to 20 kV.

3V/500A**(4049GD) Hot Cathode Mercury
Vapour Thyatron****4049GD****TYPICAL OPERATING CONDITIONS**

(for ideal choke-input filter)

Circuit No.	No. of Valves	Maximum D.C. output Volts	Maximum D.C. output current
2	2	6,400V	2.5A
3	4	13,000V	2.5A
4	3	9,500V	3.75A
5	6	9,500V	7.5A
6	6	18,500V	3.75A

THYRATRON OPERATION.

With a condensed mercury temperature of 35°C the minimum values of grid blocking voltages to prevent ignition are

GRID VOLTAGE (approx).

—4V
—3V
—2V
—1V
—0V

ANODE VOLTAGE

15,000V
11,000V
9,000V
5,000V
3,000V

To strike the valve the grid should be pulsed positive. The pulse should have a leading edge as near vertical as possible. The control of the output is made by variation of the phase of the applied grid pulse relative to that of the anode voltage.

This thyatron being directly heated, it is recommended the output circuit be connected to the mid-point of the filament transformer secondary.

CATHODE HEATING TIME.

Ambient temperature

20° to 30°

30° to 65°

Min. pre-heating period

15 mins.

5 mins.

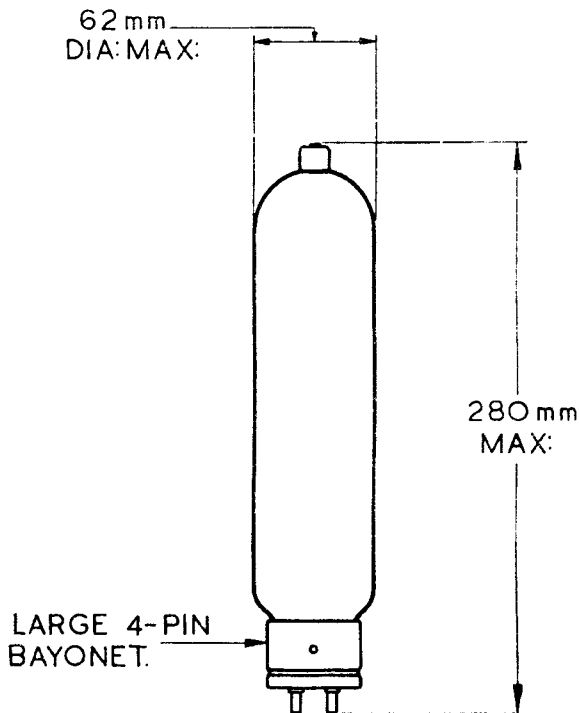
After shipment or transit, the valve must be pre-heated not less than 30 minutes before any anode voltage is applied so that the mercury may be distributed correctly. Temperature limits under "Natural Ventilation" are only valid for unrestricted natural ventilation, forced air blast cooling being required for operation up to the maximum condensed mercury temperature limit.

Note.—Before putting a valve of this type into service, it is recommended that reference be made to the General Information Sheet K.



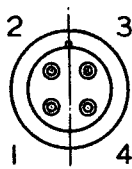
3V/500A
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BASING.

- 1 GRID.
- 2 FILAMENT.
- 3 BLANK.
- 4 FILAMENT.



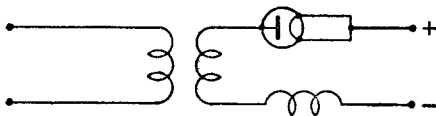
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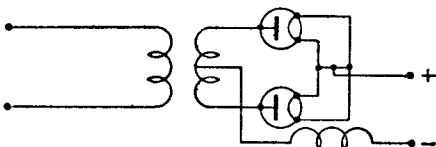


4049GD

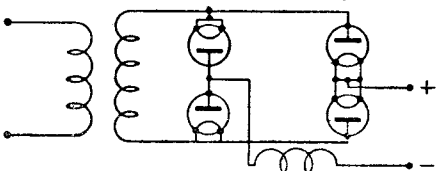
Circuit
No.
1



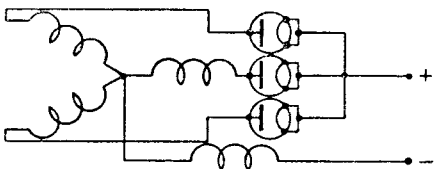
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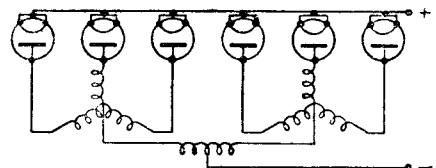
3



4



5



6

