



Hot Cathode Mercury Vapour Thyatron

3V/560E (4079GA)

4079GA

CATHODE.

Oxide-coated shielded filament.

Voltage	5	V
Nominal current	38	A

DIMENSIONS.

Maximum overall length	544	mm.
Maximum bulb diameter	196	mm.
Net weight	1.9	kg.
Base.	Special 3 pin.	See drawing.
Top cap.	Special.	See drawing.

MAXIMUM RATINGS.

Maximum peak inverse voltage	20,000	V
Maximum peak anode current	20	A
Maximum average anode current	7.5	A
Condensed mercury temperature range with forced ventilation	15° C. to 65° C. maximum	

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	{ 15° C. to 45° C.	15° C. to 35° C.	—	—
Forced Ventilation	{ 15° C. to 60° C.	15° C. to 50° C.	15° C. to 40° C.	15° C. to 35° C.
Peak inverse voltage	Less than 7,000 V	7,500 to 10,000 V	10,000 to 12,500 V	Greater than 12,500 V

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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	6,400 V	12.5 A
3	4	13,000 V	12.5 A
4	3	9,500 V	16 A
5	6	9,500 V	30 A
6	6	18,500 V	16 A

THYRATRON OPERATION.

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

Grid voltage (approximately)

Anode voltage

— 1
— 202 kV
16 kV

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 grid pulse relative to the phase of the applied anode voltage.

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

CATHODE HEATING TIME.

Ambient temperature	{	10° C. to 15° C.	15° C. to 20° C.	20° C. and above
Minimum pre-heating time		30 minutes	15 minutes	5 minutes

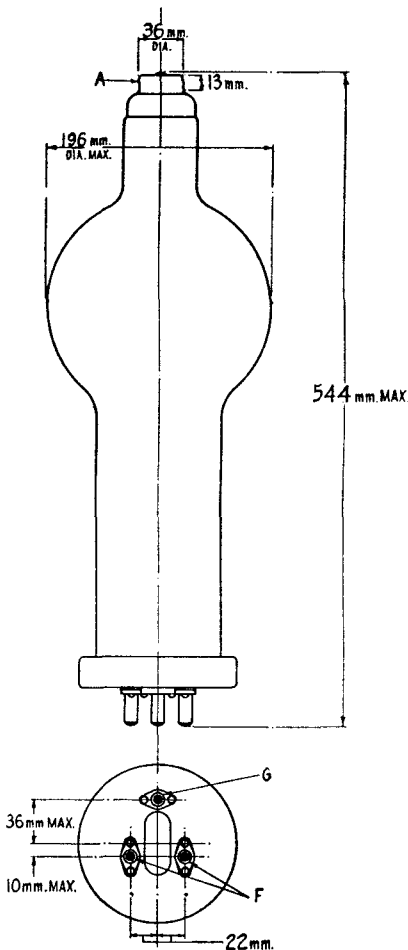
After shipment or transit the valve must be pre-heated not less than 30 minutes before any anode voltage is applied so that the mercury may be distributed correctly.

Temperature limits given under "Natural Ventilation" are only valid for unrestricted natural ventilation, forced air blast 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.



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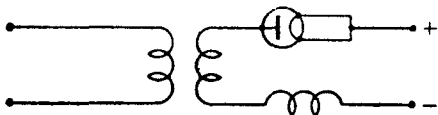
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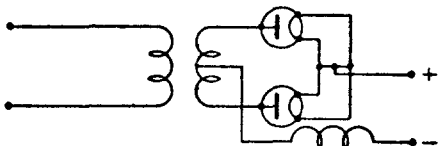


Circuit
No.

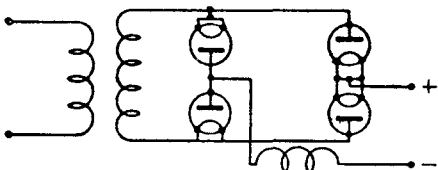
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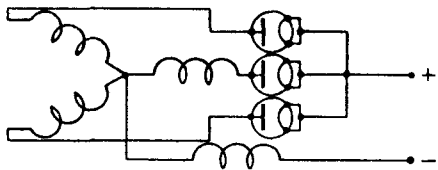
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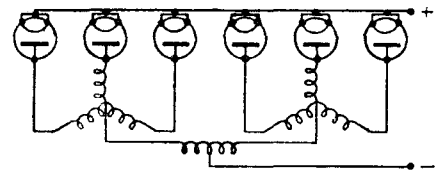
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