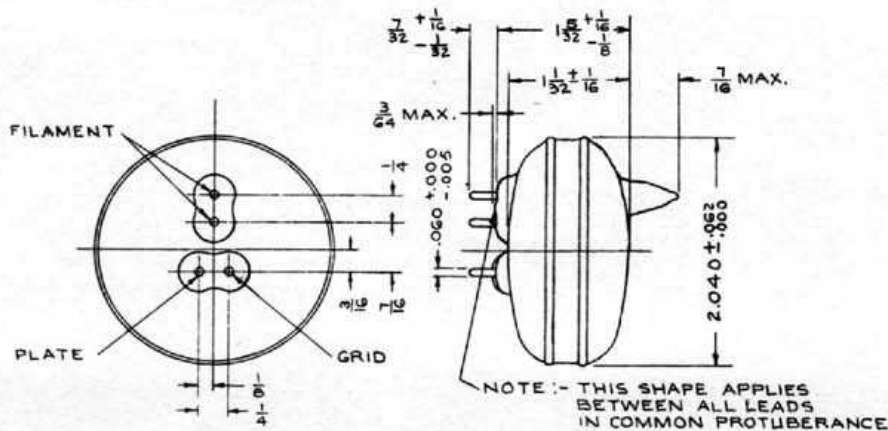


TECHNICAL INFORMATION
WESTERN ELECTRIC 703A VACUUM TUBE



ALL LEADS SHALL BE SO ALIGNED THAT THEY CAN BE INSERTED INTO A GAUGE 1/4 THICK HAVING FOUR HOLES WHOSE DIAMETERS ARE .075 LOCATED ON THE TRUE CENTERS FIXED BY THE GIVEN DIMENSIONS.
THE RELATION OF THE TWO HALVES OF THE TUBE AFTER SEAL-IN MAY DEVIATE FROM COAXIAL ALIGNMENT AS FOLLOWS : ANGULARLY $\pm 2^\circ$
LATERALLY $\pm 1/32$

CLASSIFICATION

This vacuum tube is a single-ended, filamentary, radiation-cooled, negative grid triode intended for converter, amplifier and oscillator applications at frequencies in and below the 1000 megacycles region.

MOUNTING

No base is provided. Connections to the tungsten terminal rods should be made with small brass or copper sleeves equipped with set screws or similar clamping means. It is desirable that the connectors be of sufficient size to assist in cooling the leads. In connecting to the terminals of the tube, care must be taken not to strain the glass. The tube may be mounted in any position but should be cushioned against vibration. Mechanical shock should be avoided to prevent breakage of the filament, which is somewhat more fragile than the thoriated tungsten filaments of other transmitting tubes.

FILAMENT

Thoriated tungsten

Filament voltage	1.15 volts a-c or d-c
Filament current (nominal)	4.5 amperes

In oscillator applications the optimum adjustment of filament current will be found to vary from tube to tube and during the life of any particular tube.

The lowest satisfactory filament current will give maximum tube life.

<u>Maximum Ratings</u>		<u>Average Characteristics</u>	
Max. direct plate voltage	350 volts	At plate voltage	350 volts
Max. direct plate current	75 ma	At plate current	57 ma
Max. direct grid current	12 ma	Amplification factor	10
Max. plate dissipation	20 watts	Grid-plate trans-conductance	2500 micromhos
		Plate resistance	4000 ohms

OPERATION

At frequencies above 300 megacycles, certain precautions must be observed in the circuit design in order to utilize the features of this tube to the maximum degree. In order to assure that the filaments are at ground potential, tuning of both filament leads is essential. Adjustable concentric lines of approximately 1/4 wavelength are best suited for this purpose as well as for the tank circuit tuning. It is desirable to avoid the use of dielectric materials to as great an extent as possible and to confine that which is necessary for mounting circuit elements or for by-passing condensers to points of low r.f. voltage. Special attention should be given to the shielding of tubes at these frequencies since relatively large amounts of power may be radiated by the tube elements themselves.

The nominal power output as an oscillator at 1000 megacycles is approximately 2.5 watts.