



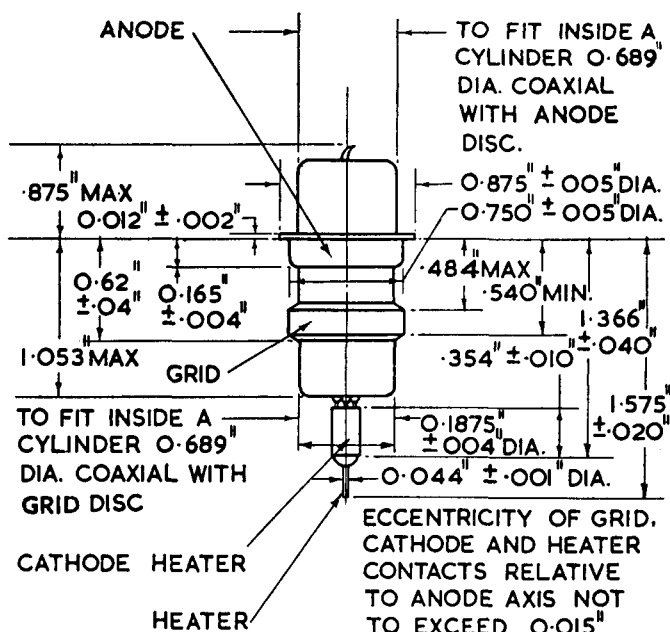
# Triode Type DET23

(UHF AMPLIFIER)

**General.** The DET 23 is an indirectly-heated disc seal UHF triode, designed for use as a Class A amplifier in common-grid, earthed-anode, and concentric-line circuits.

**Cooling.** In order to limit the temperature and rate of change of temperature of the anode seal, it is necessary for the mass of metal in close thermal contact with the anode disc to be not less than 2 oz. (approx. 60 gm.) of brass or its equivalent. The anode seal temperature must not exceed 140°C.

**Mounting.** The valve may be mounted in any position. Rigid connection must be made to the anode flange only.



## TYPICAL CIRCUIT ARRANGEMENT

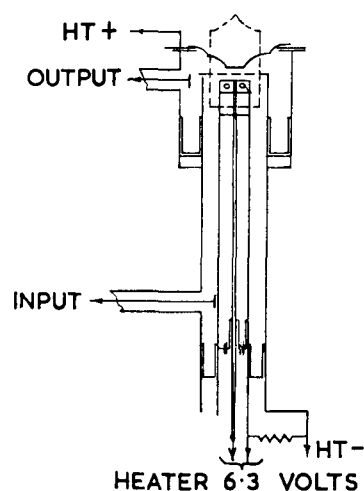


FIG. 1.

## RECOMMENDED CIRCUIT DIMENSIONS

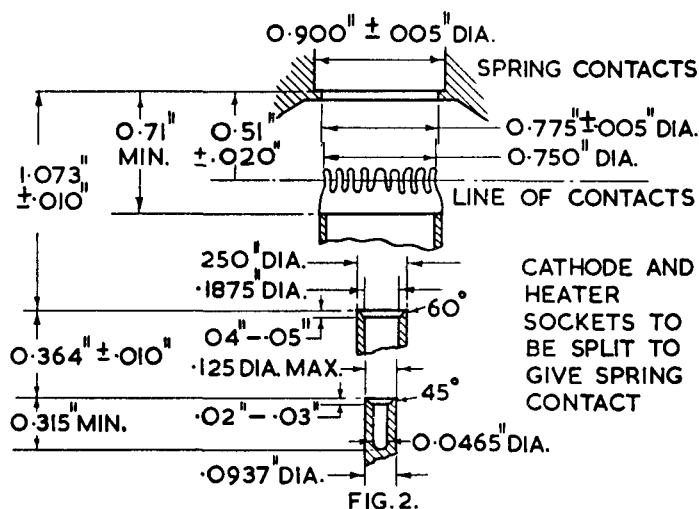


FIG. 2.

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### APPROXIMATE DATA

|                                           |      |      |
|-------------------------------------------|------|------|
| $V_h$                                     | 6.3  | V    |
| $I_h$                                     | 0.4  | A    |
| $V_{a(max)}$                              | 350  | V    |
| $P_{a(max)}$                              | 5    | W    |
| $\mu$                                     | 70   |      |
| $g_m$ (taken at $V_a$ 250 V, $I_a$ 10 mA) | 7    | mA/V |
| $C_{a-gl}$                                | 0.9  | pF   |
| $C_{a-k}$                                 | 0.01 | pF   |
| $C_{gl-k}$                                | 2.2  | pF   |

### APPLICATION DATA

A typical circuit arrangement is shown where the anode-grid and grid-cathode circuits are both co-axial lines, the grid tube being common to both circuits.

The anode-grid and grid-cathode circuits are both tuned by means of movable bridges, and it is essential that there should be good contact between these bridges and the tubes on which they slide. In order that bias may be used, a capacitor is included in the grid-cathode bridge.

The output can be taken from the amplifier into a 75  $\Omega$  cable by means of a capacity probe as indicated. The coupling can be adjusted to optimum by sliding the probe along the line or by varying the depth of penetration towards the grid line.

Coupling to the input circuit may be made by a 75  $\Omega$  cable. Tight coupling being required, to match the cable to the valve, the inner conductor of the cable should make actual contact with the cathode line.

