

# SUBMINIATURE OUTPUT PENTODE

# DL620

Subminiature output pentode suitable for battery operation with an h.t. supply of 90V.

## FILAMENT

Suitable for d.c. operation only.

|       |      |    |
|-------|------|----|
| $V_f$ | 1.25 | V  |
| $I_f$ | 50   | mA |

## MOUNTING POSITION

Any

**Note**—Direct soldered connections to the leads of this valve must be at least 5mm from the seal and any bending of the valve leads must be at least 1.5mm from the seal.

## CAPACITANCES (measured without external shield)

|             |      |    |
|-------------|------|----|
| $C_{a-g_1}$ | <0.2 | pF |
| $C_{in}$    | 2.8  | pF |
| $C_{out}$   | 3.5  | pF |

## CHARACTERISTICS

|                 |      |            |
|-----------------|------|------------|
| $V_a$           | 67.5 | V          |
| $V_{g_2}$       | 67.5 | V          |
| $I_a$           | 3.1  | mA         |
| $I_{g_2}$       | 950  | $\mu A$    |
| $V_{g_1}$       | -6.5 | V          |
| $g_m$           | 650  | $\mu A/V$  |
| $r_a$           | 110  | k $\Omega$ |
| $\mu_{g_1-g_2}$ | 5.0  |            |

## OPERATING CONDITIONS AS SINGLE VALVE CLASS 'A' AMPLIFIER

|                      |      |      |      |            |
|----------------------|------|------|------|------------|
| $V_a$                | 45   | 67.5 | 90   | V          |
| $V_{g_2}$            | 45   | 67.5 | 67.5 | V          |
| $I_{a(0)}$           | 1.8  | 3.25 | 3.25 | mA         |
| $I_{g_2(0)}$         | 0.6  | 1.0  | 0.9  | mA         |
| $I_{g_2}$ (max.sig.) | 1.1  | 1.75 | 1.5  | mA         |
| $V_{g_1}$            | -3.8 | -6.2 | -6.7 | V          |
| $V_{in(r.m.s.)}$     | 3.4  | 5.0  | 4.8  | V          |
| $R_a$                | 20   | 15   | 25   | k $\Omega$ |
| $P_{out}$            | 30   | 85   | 110  | mW         |
| $D_{tot}$            | 10   | 10   | 10   | %          |

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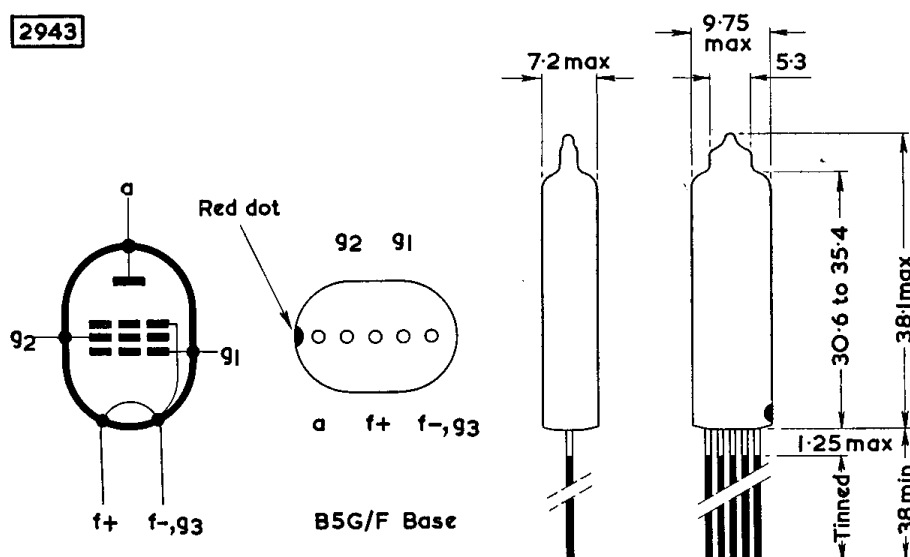
### OPERATING CONDITIONS FOR TWO VALVES IN PUSH-PULL CLASS 'AB'

|                       |      |            |
|-----------------------|------|------------|
| $V_{a-e}$             | 67.5 | V          |
| $V_{g2-e}$            | 67.5 | V          |
| $I_{a(0)}$            | 3.3  | mA         |
| $I_a$ (max. sig.)     | 3.6  | mA         |
| $I_{g2(0)}$           | 1.0  | mA         |
| $I_{g2}$ (max. sig.)  | 2.25 | mA         |
| $R_k$                 | 1.8  | k $\Omega$ |
| $R_{a-a}$             | 30   | k $\Omega$ |
| $V_{in(g1-g1)r.m.s.}$ | 16   | V          |
| $P_{out}$             | 100  | mW         |
| $D_{tot}$             | 3.0  | %          |

### LIMITING VALUES

|               |     |    |
|---------------|-----|----|
| $V_a$ max.    | 90  | V  |
| $V_{g2}$ max. | 90  | V  |
| $I_k$ max.    | 5.0 | mA |

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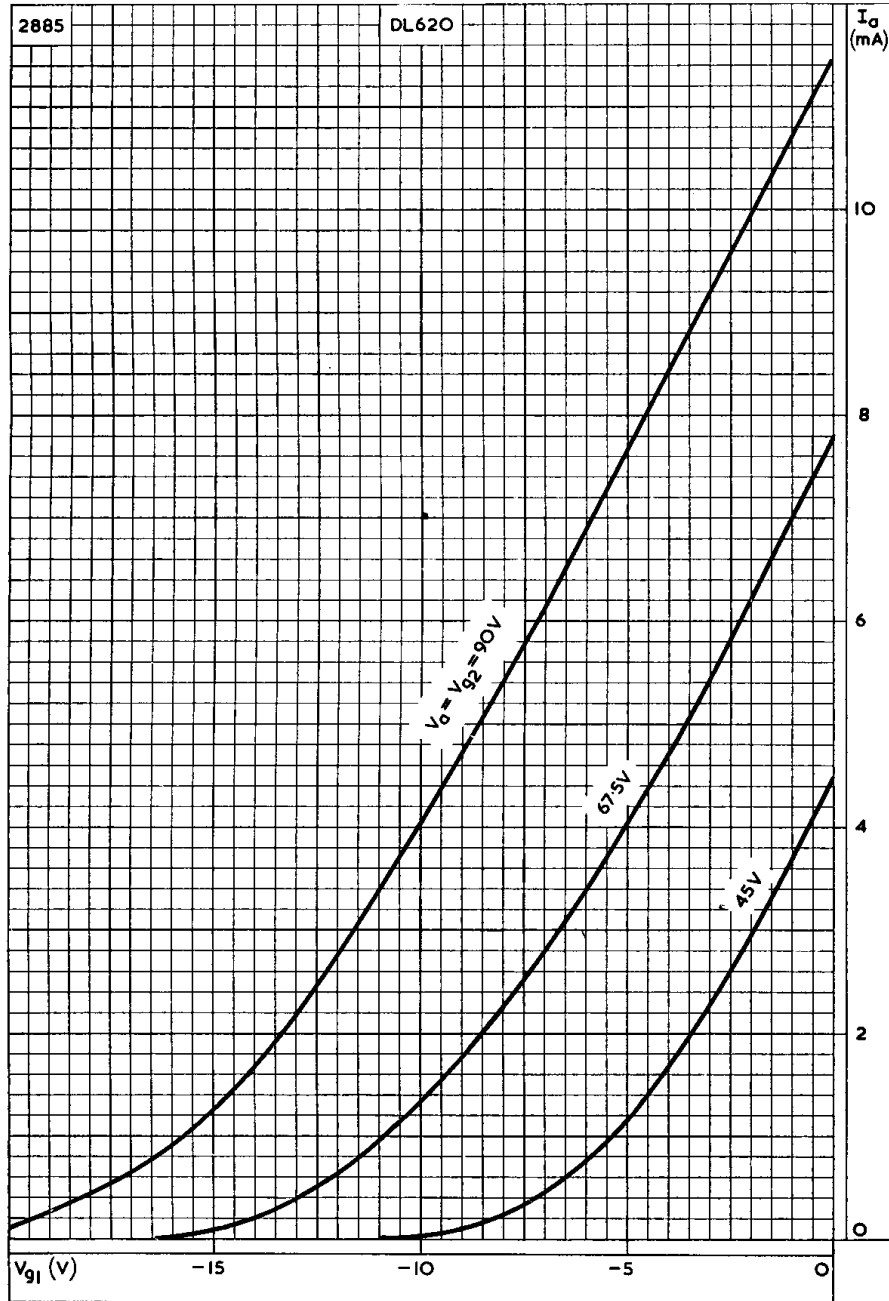


All dimensions in mm

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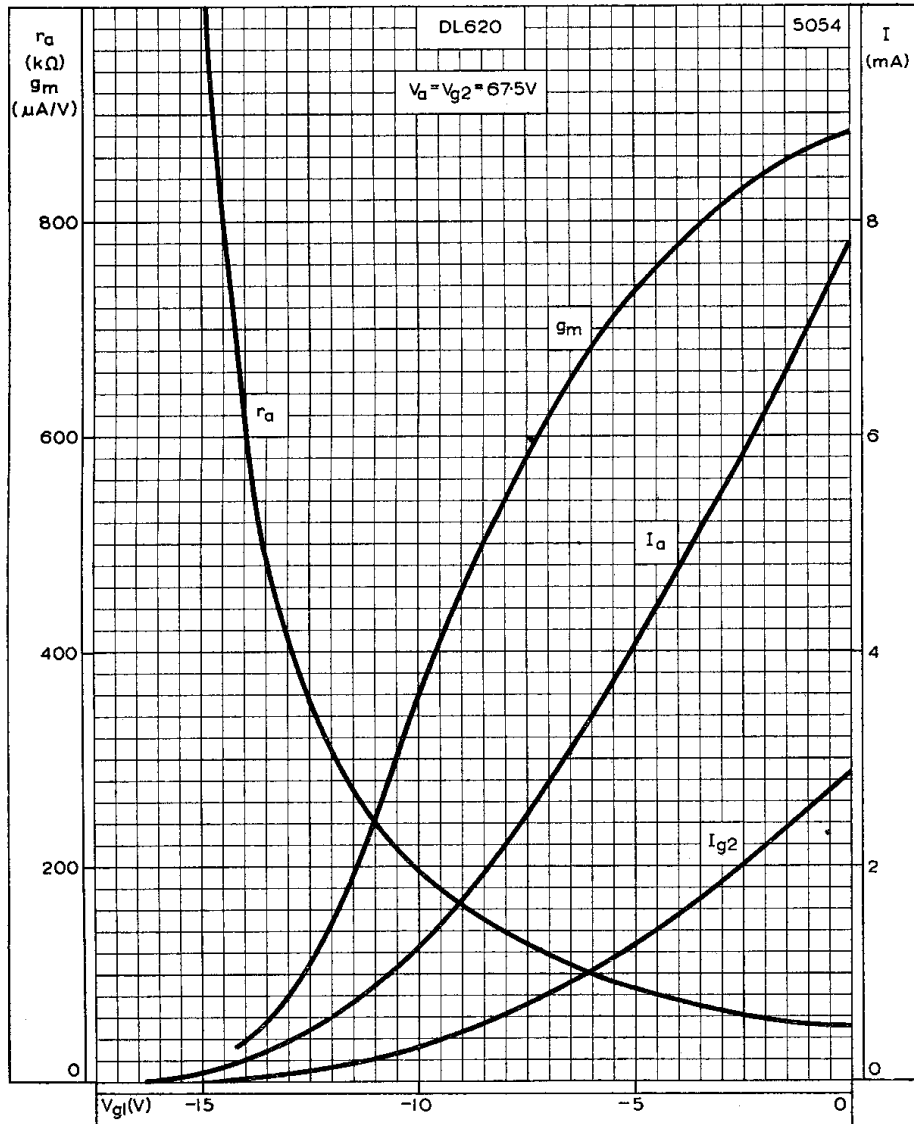


ANODE CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE FOR VARIOUS VALUES OF ANODE AND SCREEN-GRID VOLTAGE

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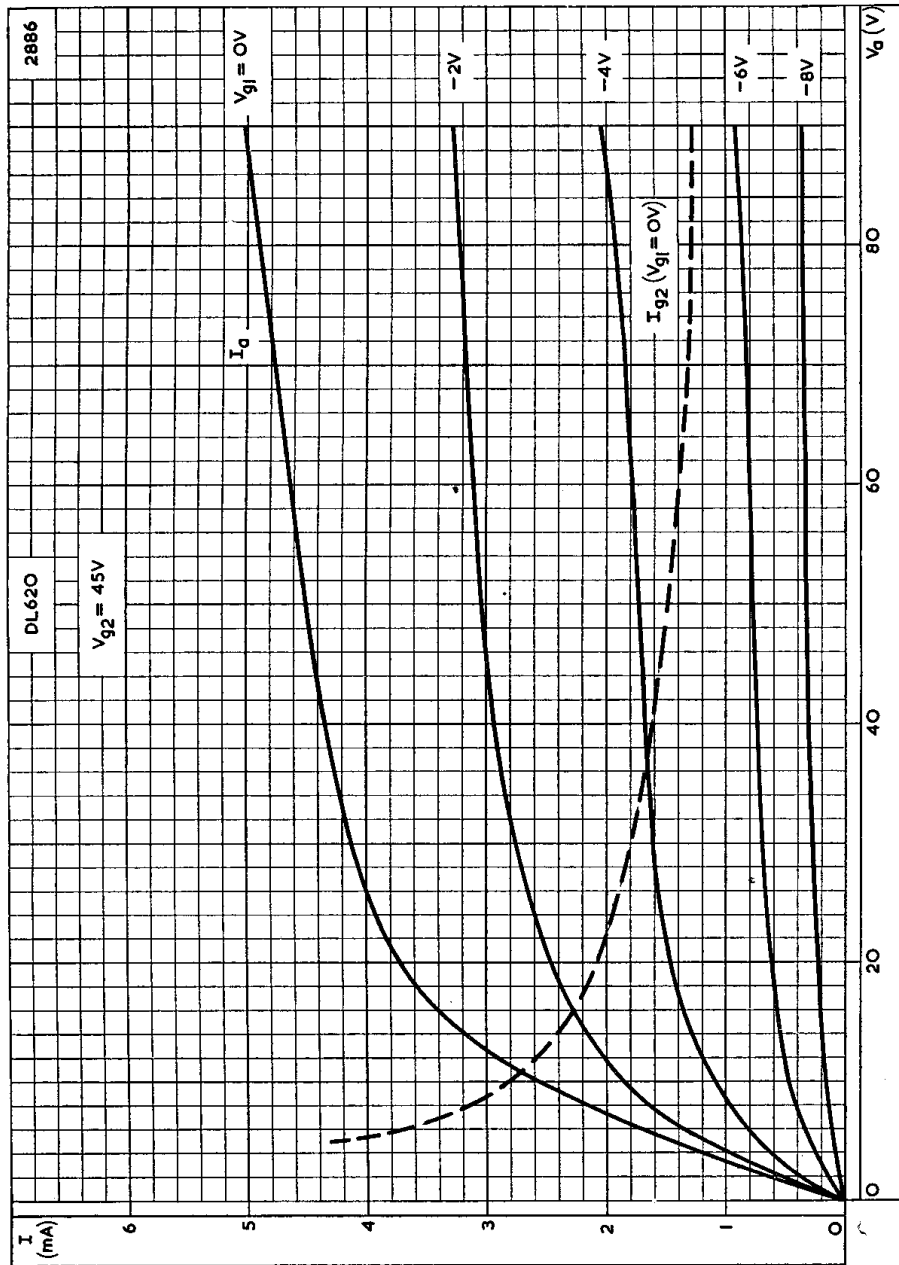


ANODE AND SCREEN-GRID CURRENTS, MUTUAL CONDUCTANCE AND ANODE IMPEDANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE  
 $V_a = V_{g2} = 67.5$ V

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Subminiature output pentode suitable for battery operation with an h.t. supply of 90V.

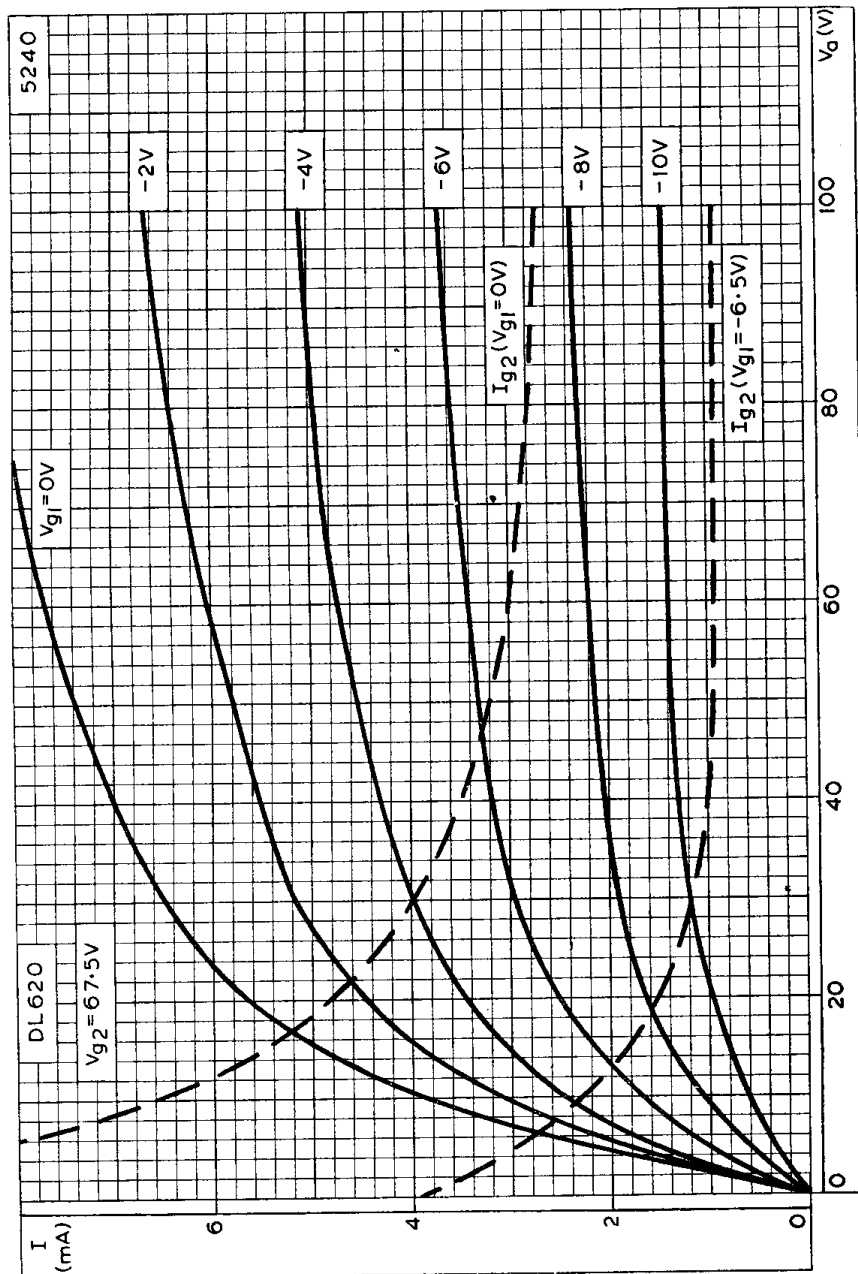


ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.  $V_{g2} = 45V$

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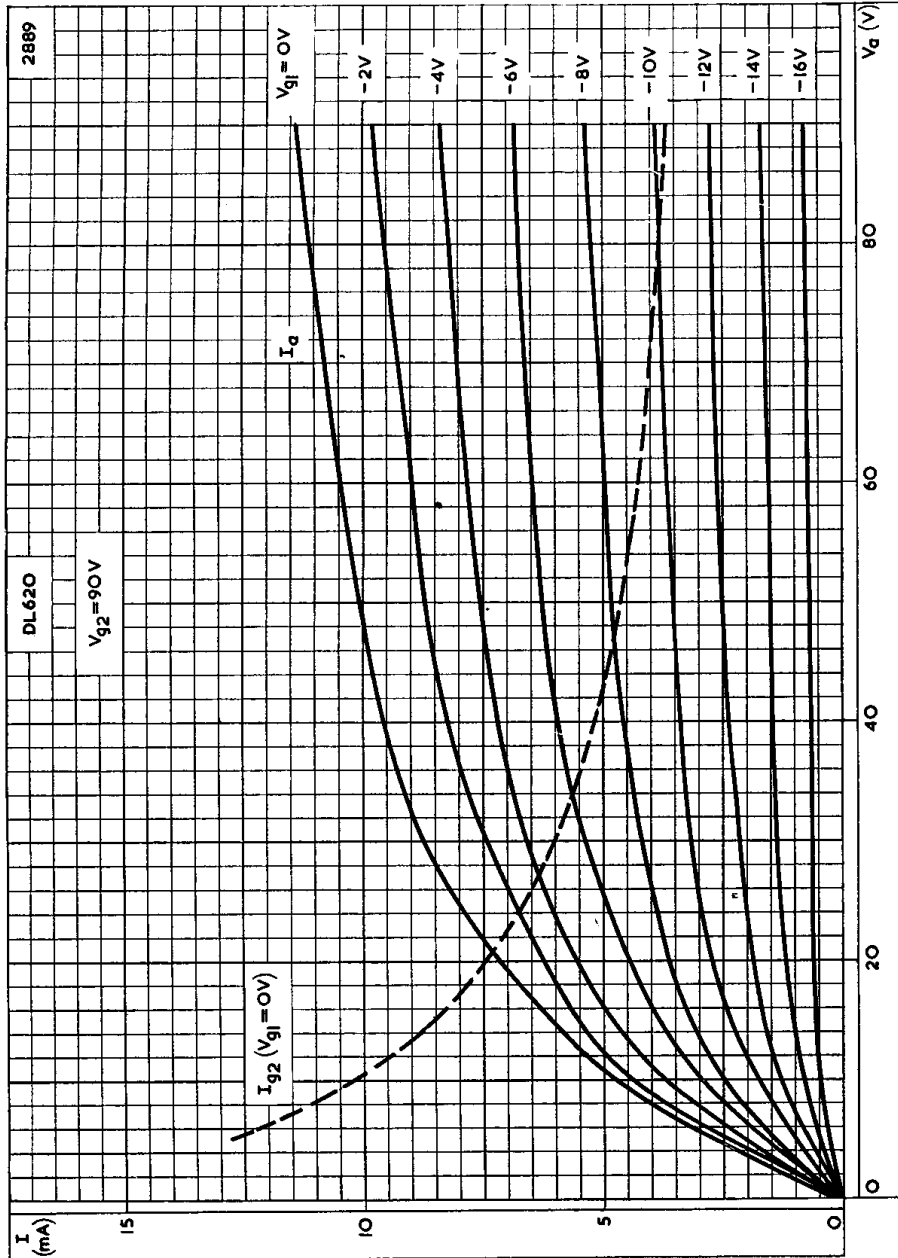


ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.  $V_{g3} = 67.5V$

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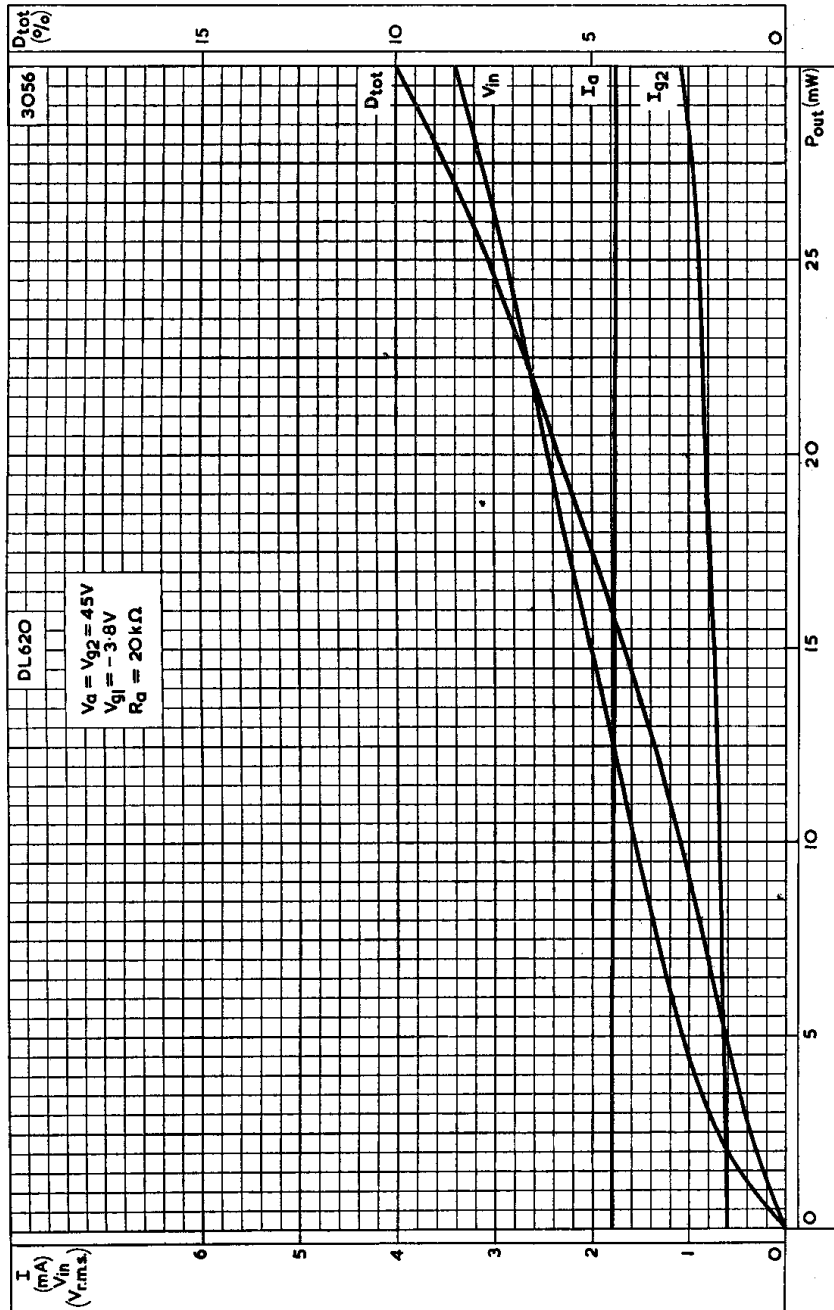


ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.  $V_{g2} = 90V$

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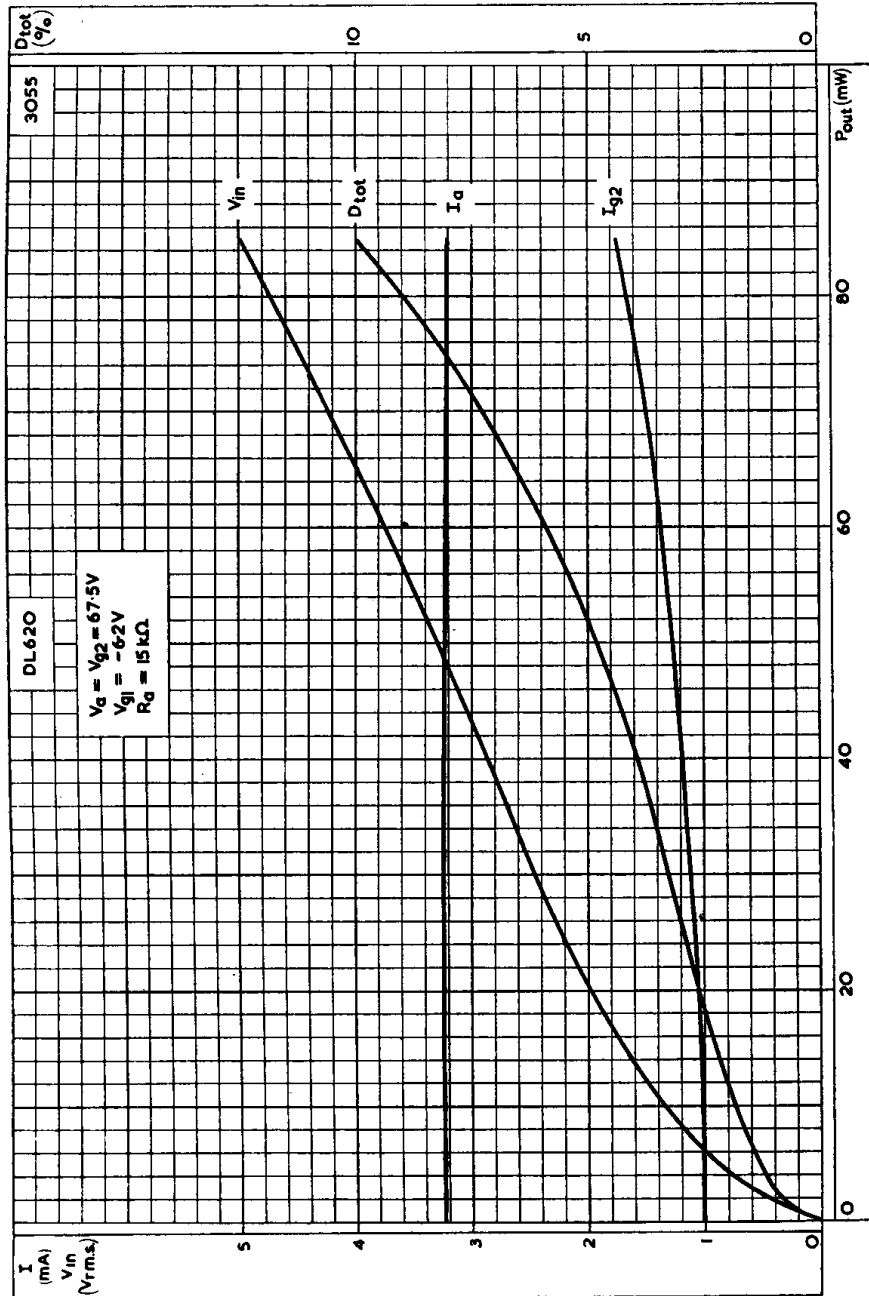
PERFORMANCE OF DL620 WHEN USED AS SINGLE VALVE CLASS 'A' AMPLIFIER.  $V_a = V_{g2} = 45V$



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Subminiature output pentode suitable for battery operation with an h.t. supply of 90V.



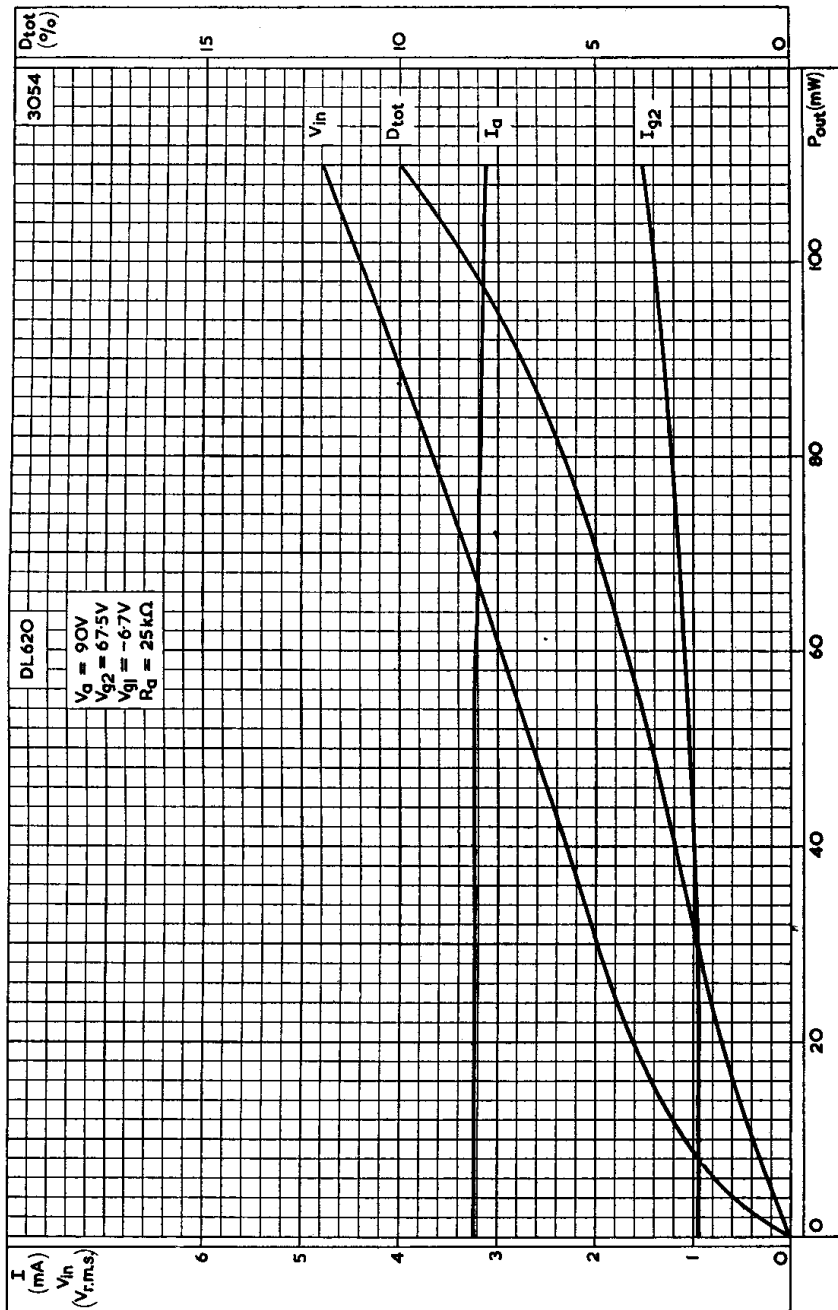
PERFORMANCE OF DL620 WHEN USED AS SINGLE VALVE CLASS 'A' AMPLIFIER.  $V_a = V_{g2} = 67.5V$



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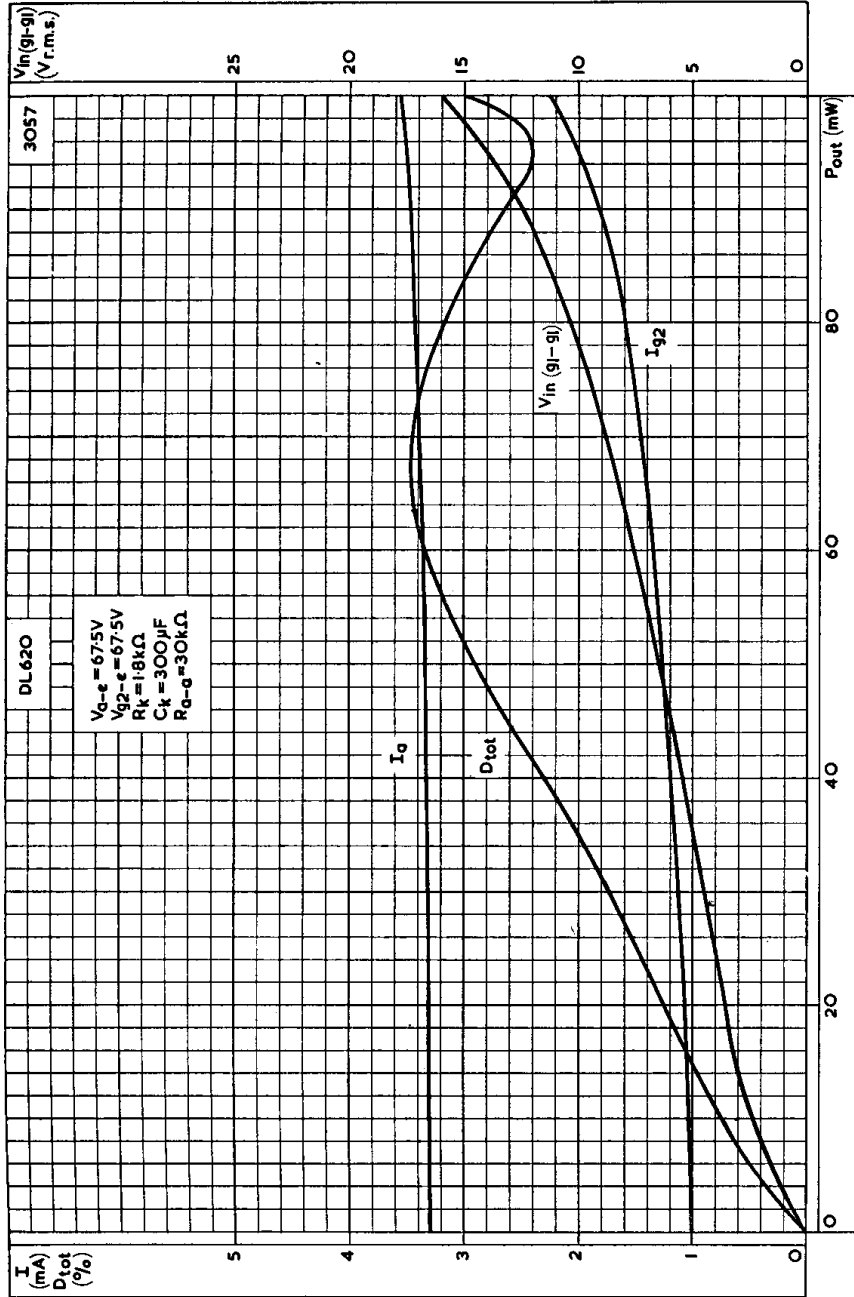


PERFORMANCE OF DL620 WHEN USED AS SINGLE VALVE CLASS 'A' AMPLIFIER.  $V_a=90V$ ,  $V_{g2}=67.5V$

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PERFORMANCE OF TWO DL620 IN PUSH-PULL WITH CATHODE BIAS