

# VOLTAGE AMPLIFYING PENTODES A

## OPERATING CONDITIONS

As R.C. coupled A.F. amplifier

|                  | 100  | 100  | 170  | 170  | V          |
|------------------|------|------|------|------|------------|
| $V_b$            |      |      |      |      |            |
| $R_a$            | 0.22 | 0.1  | 0.22 | 0.1  | M $\Omega$ |
| $I_a$            | 0.32 | 0.73 | 0.56 | 1.25 | mA         |
| $R_{g2}$         | 0.68 | 0.27 | 0.68 | 0.27 | M $\Omega$ |
| $I_{g2}$         | 0.12 | 0.29 | 0.2  | 0.5  | mA         |
| $R_k$            | 2.7  | 1.0  | 2.7  | 1.0  | K $\Omega$ |
| $R_{g1}$         | 1.0  | 1.0  | 1.0  | 1.0  | M $\Omega$ |
| $V_{out}/V_{in}$ | 82   | 67   | 85   | 70   |            |
| ** $D_{tot}$     | 1.9  | 1.8  | 1.5  | 1.6  | %          |
| * $R_{g1}$       | 0.68 | 0.33 | 0.68 | 0.33 | M $\Omega$ |

\*Grid resistor of following valve. \*\* $V_{out}=5 V_{r.m.s.}$

## UBF 80

(contd.)

## LIMITING VALUES

Pentode Section

|                               |     |            |
|-------------------------------|-----|------------|
| $V_{a(b)}$ max.               | 550 | V          |
| $V_a$ max.                    | 250 | V          |
| $p_a$ max.                    | 1.5 | W          |
| $V_{g2(b)}$ max.              | 550 | V          |
| $V_{g2}$ max. ( $I_a < 2$ mA) | 250 | V          |
| $V_{g2}$ max. ( $I_a = 5$ mA) | 125 | V          |
| $p_{g2}$ max.                 | 0.3 | W          |
| $I_k$ max.                    | 10  | mA         |
| $R_{g1-k}$ max.               | 3   | M $\Omega$ |
| $V_{h-k}$ max.                | 150 | V          |
| $V_{ad(pk)}$ max.             | 200 | V          |
| $I_{ad}$ max.                 | 0.8 | mA         |

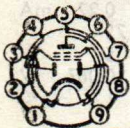
Diode Section

BASE:

B9A  
(Noval)

DIMENSIONS:

L=67 mm  
D=22.2 mm



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## H.F. pentode with variable-mu characteristics

## UF 41

### HEATER

$V_h$  12.6 V  $I_h$  0.1 A Suitable for series operation, A.C. or D.C.

### CAPACITANCES

|            |        |                  |
|------------|--------|------------------|
| $C_{a-g1}$ | <0.002 | $\mu\mu\text{F}$ |
| $C_{out}$  | 8.0    | $\mu\mu\text{F}$ |
| $C_{in}$   | 4.7    | $\mu\mu\text{F}$ |

## OPERATING CONDITIONS

As R.F. amplifier

|               | 100   |     | 170   | V                  |
|---------------|-------|-----|-------|--------------------|
| $V_a=V_b$     | 39    |     | 39    | K $\Omega$         |
| $R_{g2}$      | 330   |     | 330   | $\Omega$           |
| $V_{g1}$      | -1.4  | -17 | -2.5  | -28 V              |
| $I_a$         | 3.3   | —   | 6.0   | — mA               |
| $I_{g2}$      | 1.0   | —   | 1.75  | — mA               |
| $g_m$         | 1,800 | 18  | 2,100 | 21 $\mu\text{A/V}$ |
| $r_a$         | 0.8   | >10 | 1     | >10 M $\Omega$     |
| $\mu_{g1-g2}$ | 18    | —   | 18    | —                  |
| $R_{eq}$      | 6.0   | —   | 8.0   | — K $\Omega$       |



# 4 VALVE DATA PREFERRED TYPES

## A VOLTAGE AMPLIFYING PENTODES

### UF 41

(contd.)

### OPERATING CONDITIONS

As R.F. amplifier (contd.)

|               |       |                   |
|---------------|-------|-------------------|
| $V_a = V_b$   | 200   | V                 |
| $R_{g2}$      | 39    | K $\Omega$        |
| $R_k$         | 330   | $\Omega$          |
| $V_{g1}$      | -3    | -34 V             |
| $I_a$         | 7.2   | mA                |
| $I_{g2}$      | 2.1   | mA                |
| $g_m$         | 2,200 | $\mu A/V$         |
| $r_a$         | 1     | $> 10$ M $\Omega$ |
| $\mu_{g1-g2}$ | 18    | —                 |
| $R_{eq}$      | 8.8   | K $\Omega$        |

### OPERATING CONDITIONS

As A.F. amplifier

|                     |       |       |       |       |            |
|---------------------|-------|-------|-------|-------|------------|
| $V_b$               | 170   | 170   | 100   | 100   | V          |
| $R_a$               | 0.2   | 0.1   | 0.2   | 0.1   | M $\Omega$ |
| $R_{g2}$            | 0.73  | 0.35  | 0.73  | 0.35  | M $\Omega$ |
| $R_k$               | 2,500 | 1,300 | 2,500 | 1,300 | $\Omega$   |
| $I_a$               | 0.62  | 1.16  | 0.36  | 0.7   | mA         |
| $I_{g2}$            | 0.2   | 0.38  | 0.12  | 0.22  | mA         |
| $V_{out}/V_{in}$    | 84    | 76    | 80    | 75    |            |
| $V_{out}(r, m, s.)$ | 8     | 8     | 5     | 5     | V          |
| $V_{in}(r, m, s.)$  | 0.094 | 0.105 | 0.063 | 0.067 | V          |
| $D_{tot}$           | 1.7   | 2.0   | 1.3   | 1.4   | %          |

### LIMITING VALUES

|                                 |     |            |
|---------------------------------|-----|------------|
| $V_{a(b)}$ max.                 | 550 | V          |
| $V_a$ max.                      | 250 | V          |
| $p_a$ max.                      | 2   | W          |
| $V_{g2(b)}$ max.                | 550 | V          |
| $V_{g2}$ max. ( $I_a < 4$ mA)   | 250 | V          |
| $V_{g2}$ max. ( $I_a = 7.2$ mA) | 150 | V          |
| $p_{g2}$ max.                   | 0.3 | W          |
| $I_k$ max.                      | 10  | mA         |
| $R_{g1-k}$ max.                 | 3   | M $\Omega$ |
| $V_{h-k}$ max.                  | 150 | V          |



BASE:  
B8A

DIMENSIONS:

L=60 mm  
D=22 mm

