

# VOLTAGE AMPLIFYING PENTODES A

**EF36** General purpose A.F. pentode

**EF 36**

**EF37** General purpose low-microphony A.F. pentode

**EF 37**

## HEATER

$V_h$  6.3V  $I_h$  0.2A Suitable for D.C./A.C. operation

For ratings, characteristics and operating conditions see EF37A below

**High gain low microphony, low hum A.F. pentode,**  
primarily intended for use in pre-amplifier stages

**EF 37A**

## HEATER

$V_h$  6.3 V  $I_h$  0.2 A Suitable for D.C./A.C. operation

## CAPACITANCES

|            |       |            |
|------------|-------|------------|
| $C_{a-g1}$ | <0.02 | $\mu\mu F$ |
| $C_{in}$   | 5.5   | $\mu\mu F$ |
| $C_{out}$  | 8.5   | $\mu\mu F$ |

## CHARACTERISTICS

|               |     |            |
|---------------|-----|------------|
| $V_a$         | 250 | V          |
| $V_{g2}$      | 100 | V          |
| $V_{g3}$      | 0   |            |
| $I_a$         | 3   | mA         |
| $V_{g1}$      | -2  | V          |
| $I_{g2}$      | 0.8 | mA         |
| $g_m$         | 1.8 | mA/V       |
| $r_a$         | 2.5 | M $\Omega$ |
| $\mu_{g1-g2}$ | 28  |            |

## OPERATING CONDITIONS

As R.C. coupled A.F. amplifier connected as pentode

| $V_b$<br>(V) | $R_a$<br>(K $\Omega$ ) | $I_k$<br>(mA) | $R_{g2}$<br>(K $\Omega$ ) | $R_k$<br>(K $\Omega$ ) | $V_{out}$<br>$V_{in}$ | ** $V_{out}$<br>( $V_{r.m.s.}$ ) | * $R_{g1}$<br>(K $\Omega$ ) |
|--------------|------------------------|---------------|---------------------------|------------------------|-----------------------|----------------------------------|-----------------------------|
| 400          | 100                    | 3.4           | 330                       | 1.2                    | 115                   | 80                               | 330                         |
| 350          | 100                    | 2.9           | 330                       | 1.2                    | 112                   | 69                               | 330                         |
| 300          | 100                    | 2.5           | 330                       | 1.2                    | 108                   | 59                               | 330                         |
| 250          | 100                    | 2.1           | 330                       | 1.2                    | 103                   | 49                               | 330                         |
| 200          | 100                    | 1.7           | 330                       | 1.2                    | 98                    | 39                               | 330                         |
| 400          | 220                    | 1.8           | 680                       | 2.2                    | 180                   | 81                               | 680                         |
| 350          | 220                    | 1.6           | 680                       | 2.2                    | 176                   | 69                               | 680                         |
| 300          | 220                    | 1.3           | 680                       | 2.2                    | 170                   | 58                               | 680                         |
| 250          | 220                    | 1.1           | 680                       | 2.2                    | 163                   | 48                               | 680                         |
| 200          | 220                    | 0.9           | 680                       | 2.2                    | 152                   | 37                               | 680                         |

\* $R_{g1}$  is the grid resistance of the following valve

\*\* $D_{tot}$ =5%



# 4 VALVE DATA PREFERRED TYPES

## A VOLTAGE AMPLIFYING PENTODES

### EF 37A OPERATING CONDITIONS

(contd.)

As R.C. coupled A.F. amplifier connected as triode with  $g_2$  connected to a and  $g_3$  connected to k

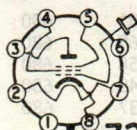
| $V_b$<br>(V) | $R_a$<br>(K $\Omega$ ) | $I_a$<br>(mA) | $R_k$<br>(K $\Omega$ ) | $V_{out}$<br>$V_{in}$ | $V_{out}^\dagger$<br>( $V_{r.m.s.}$ ) | $D_{tot}^\dagger$<br>(%) | $R_{g1}^*$<br>(K $\Omega$ ) |
|--------------|------------------------|---------------|------------------------|-----------------------|---------------------------------------|--------------------------|-----------------------------|
| 400          | 47                     | 4.6           | 1.2                    | 18.4                  | 67                                    | 4.5                      | 150                         |
| 350          | 47                     | 4.0           | 1.2                    | 18.2                  | 57                                    | 4.4                      | 150                         |
| 300          | 47                     | 3.4           | 1.2                    | 18.0                  | 48                                    | 4.3                      | 150                         |
| 250          | 47                     | 2.8           | 1.2                    | 17.7                  | 38                                    | 4.2                      | 150                         |
| 200          | 47                     | 2.3           | 1.2                    | 17.5                  | 29                                    | 4.0                      | 150                         |
| 400          | 100                    | 2.4           | 2.2                    | 20.1                  | 66                                    | 3.9                      | 330                         |
| 350          | 100                    | 2.1           | 2.2                    | 20.0                  | 57                                    | 3.9                      | 330                         |
| 300          | 100                    | 1.8           | 2.2                    | 19.9                  | 48                                    | 3.8                      | 330                         |
| 250          | 100                    | 1.5           | 2.2                    | 19.7                  | 38                                    | 3.7                      | 330                         |
| 200          | 100                    | 1.2           | 2.2                    | 19.5                  | 28                                    | 3.5                      | 330                         |
| 400          | 220                    | 1.2           | 3.9                    | 20.6                  | 61                                    | 3.4                      | 680                         |
| 350          | 220                    | 1.0           | 3.9                    | 20.4                  | 52                                    | 3.3                      | 680                         |
| 300          | 220                    | 0.9           | 3.9                    | 20.3                  | 44                                    | 3.3                      | 680                         |
| 250          | 220                    | 0.8           | 3.9                    | 20.2                  | 35                                    | 3.2                      | 680                         |
| 200          | 220                    | 0.6           | 3.9                    | 20.0                  | 26                                    | 3.0                      | 680                         |

$^\dagger$  Output voltage and distortion at start of positive grid current. At lower output voltage the distortion is approximately proportional to the voltage.

\* $R_{g1}$  is the grid resistance of the following valve.

### LIMITING VALUES

|                              |     |            |
|------------------------------|-----|------------|
| $V_{a(b)}$ max.              | 550 | V          |
| $V_a$ max.                   | 300 | V          |
| $P_a$ max.                   | 1   | W          |
| $V_{g2(b)}$ max.             | 550 | V          |
| $V_{g2}$ max.                | 150 | V          |
| $P_{g2}$ max.                | 0.3 | W          |
| $I_k$ max.                   | 6   | mA         |
| $I_{g2}$ max.                | 1.4 | mA         |
| $R_{g1-k}$ max. (self bias)  | 3   | M $\Omega$ |
| $R_{g1-k}$ max. (fixed bias) | 1   | M $\Omega$ |
| $V_{h-k}$ max.               | 100 | V          |



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BASE:  
Octal

DIMENSIONS:  
L=100 mm  
D=32 mm