

# OUTPUT PENTODE

# EL37

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.

## HEATER

$V_h$	6.3	V
$I_h$	1.4	A

## CAPACITANCES

$C_{a-k}$	9.0	$\mu\mu\text{F}$
$C_{g-k}$	17.5	$\mu\mu\text{F}$
$C_{a-g1}$	1.0	$\mu\mu\text{F}$

## OPERATING CONDITIONS AS PENTODE

$V_a$	250	V
$V_{g2}$	250	V
$V_{g1}$	-13.5	V
$I_a$	100	mA
$I_{g2}$	13.5	mA
$R_k$	120	ohms
$g_m$	11.0	mA/V
$r_a$	13,500	ohms
$\mu_{g1-g2}$	10	
$R_a$	2,500	ohms
$V_{in}(\text{rms})$ 50 mW	0.45	V
$W_{out}$ ( $D_{tot} = 10\%$ )	10.5	W
$V_{in}(\text{rms})$ (start of $I_{g1}$ )	10.8	V
$D_{tot}$ (start of $I_{g1}$ )	13.5	%
$W_{out}$ (start of $I_{g1}$ )	11.5	W

## OPERATING CONDITIONS - TWO VALVES IN PUSH-PULL (Self Bias)

$V_a$	250	325	V
$V_{g2}$	250	325	V
$I_{a0}$	2x59	2x77	mA
$I_a$ max.	2x68	2x90	mA
$I_{g20}$	2x7.5	2x9.75	mA
$I_{g2}$ max.	2x18	2x30	mA
$R_k$	130	130	ohms
$R_{a-a}$	4,000	4,000	ohms
$W_{out}$	20.0	35.0	W
$V_{in}(\text{rms})$	29.0	43.0	V
$g1-g1$			
$D_{tot}$	2.25	4.4	%



# EL37

## OUTPUT PENTODE

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.

### OPERATING CONDITIONS - TWO VALVES IN PUSH-PULL (Fixed Bias)

$V_a$	350	400	V
$V_{g2}$	350	400	V
$I_a(o)$	2x40	2x50	mA
$I_a \text{ max.sig.}$	2x118	2x138	mA
$I_{g2}(o)$	2x5	2x6	mA
$I_{g2} \text{ max.sig.}$	2x29	2x36	mA
$V_{g1}$	-31	-36	V
$R_{a-a}$	3,250	3,250	$\Omega$
$W_{out}$	46.0	69.0	W
$V_{in(rms)}$	43.4	49.0	V
$g1-g1$			
$D_{tot}$	2.8	2.5	%

### OPERATING CONDITIONS AS SINGLE VALVE, TRIODE CONNECTED.

(Grid 2 strapped to anode by 100 $\Omega$  resistor)

$V_a$	300	400	V
$I_a$	50	37.5	mA
$V_{g1}$	-23	-36	V
$S_m$	6.5	4.5	mA/V
$\mu$	9	9	-
$r_a$	1400	2000	$\Omega$

### OPERATING CONDITIONS AS PUSH-PULL PAIR, TRIODE CONNECTED

(SELF BIAS)

$V_b$	350	435	V
$V_a$	320	400	V
$I_{a+g2}(o)$	2x56	2x70	mA
$I_{a+g2} \text{ (max.sig.)}$	2x64	2x80	mA
$W_{a+g2}$	2x18	2x28	W
$R_k$	245	245	$\Omega$
$R_{a-a}$	4000	4000	$\Omega$
$V_{in}$	2x21.5	2x27.2	V.rms
$W_{out}$	12.5	20.6	W
$D_{tot}$	4.1	4.3	%

### LIMITING VALUES - PENTODE CONNECTED

$V_a(b) \text{ max.}$	800	V
$V_a \text{ max.}$	400	V
$V_{g2}(b) \text{ max.}$	800	V
$V_{g2} \text{ max.}$	400	V
$V_{g1} \text{ max. (} I_{g1}=0.3\mu\text{A)}$	-1.3	V
$V_{h-k} \text{ max.}$	75	V
$R_{h-k} \text{ max.}$	5000	$\Omega$



# OUTPUT PENTODE

# EL37

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.

$R_{g1-k}$ max. (cathode bias)	0.5	$M\Omega$
$R_{g1-k}$ max. (fixed bias)	0.1	$M\Omega$
$w_a$ max.	25	W
$w_{g2}$ max.	6	W
$I_f$ max.	125	mA

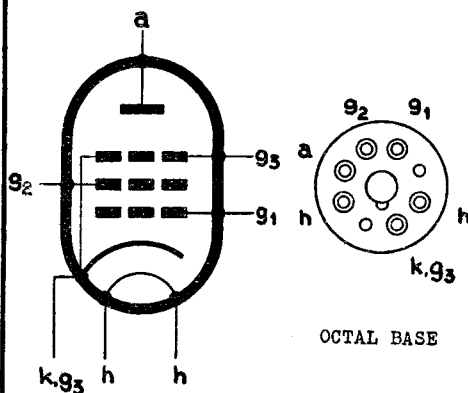
### LIMITING VALUES - TRIODE CONNECTED (NORMAL APPLICATIONS)

$V_{a+g2}$ max.	400	V
$w_{a+g2}$ max.	28	W

### LIMITING VALUES - TRIODE CONNECTED (IN CATHODE-COUPLED PUSH-PULL DRIVER STAGE FOR LARGE POWER TRIODES)

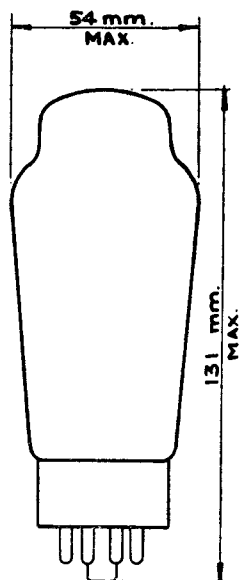
$V_{a+g2}$ max.	500	V
$w_{a+g2}$ max.	12.5	W

### ARRANGEMENT OF ELECTRODES AND BASE CONNECTIONS



OCTAL BASE

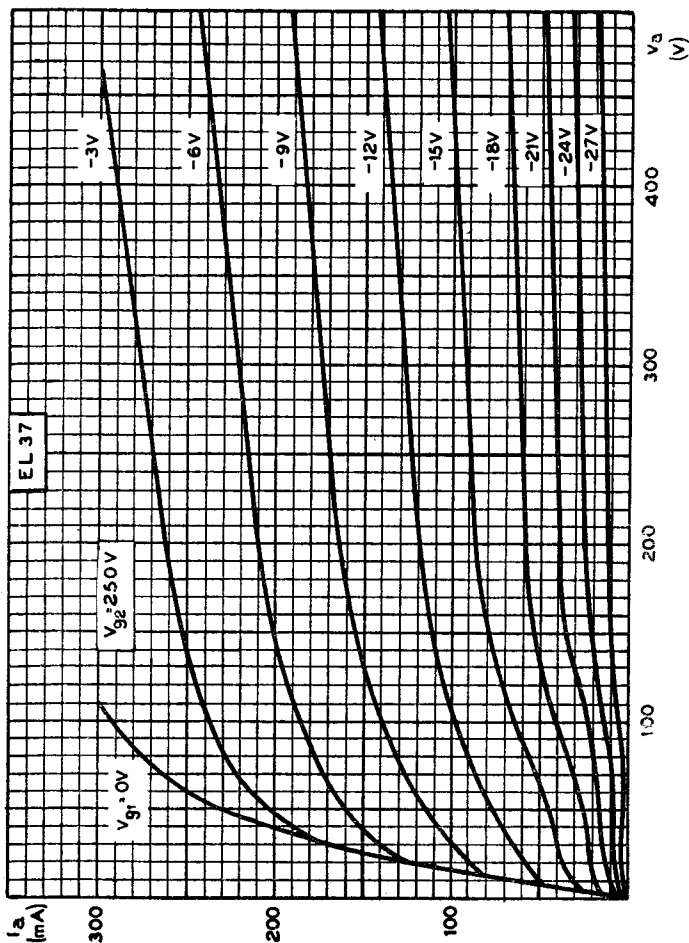
### DIMENSIONS



# EL37

## OUTPUT PENTODE

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.

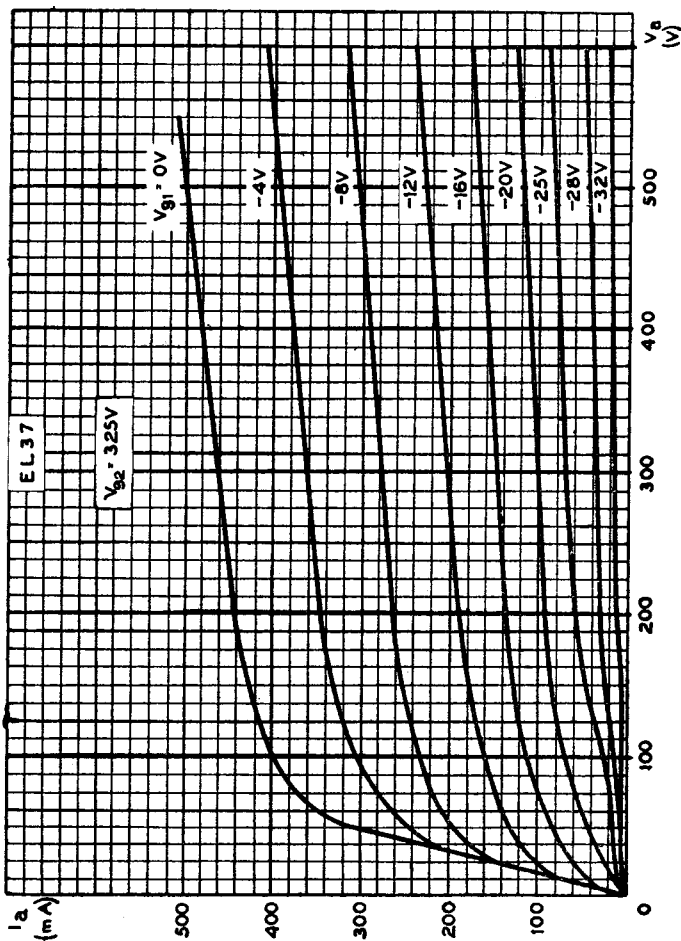


$I_a$ - $V_a$  diagram for  $V_{g2} = 250 V$ .

# OUTPUT PENTODE

# EL37

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.

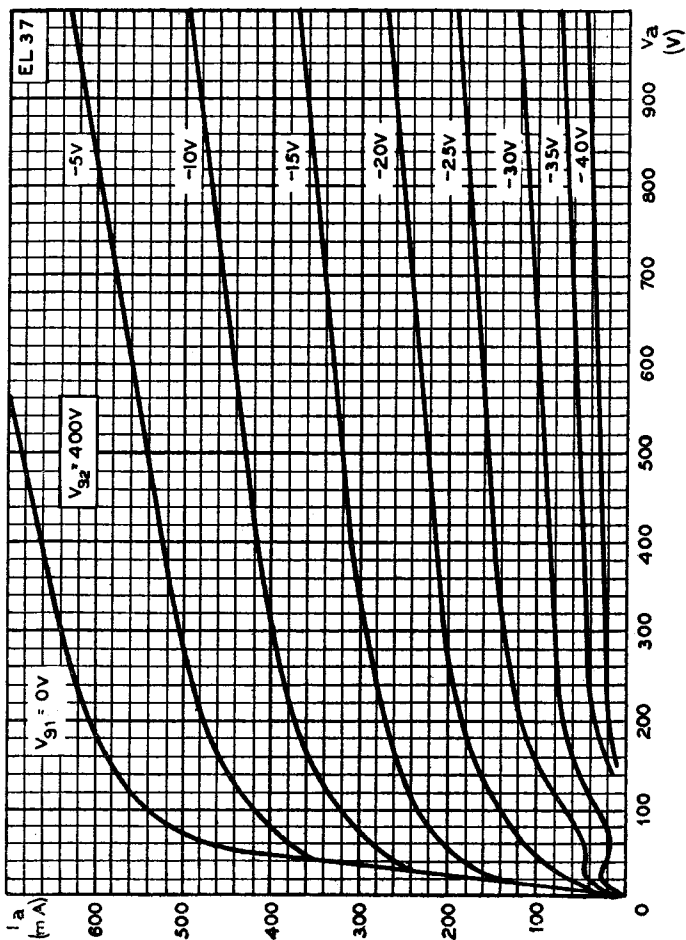


$I_a$ - $V_a$  diagram for  $V_{g2} = 325 V$ .

# EL37

## OUTPUT PENTODE

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



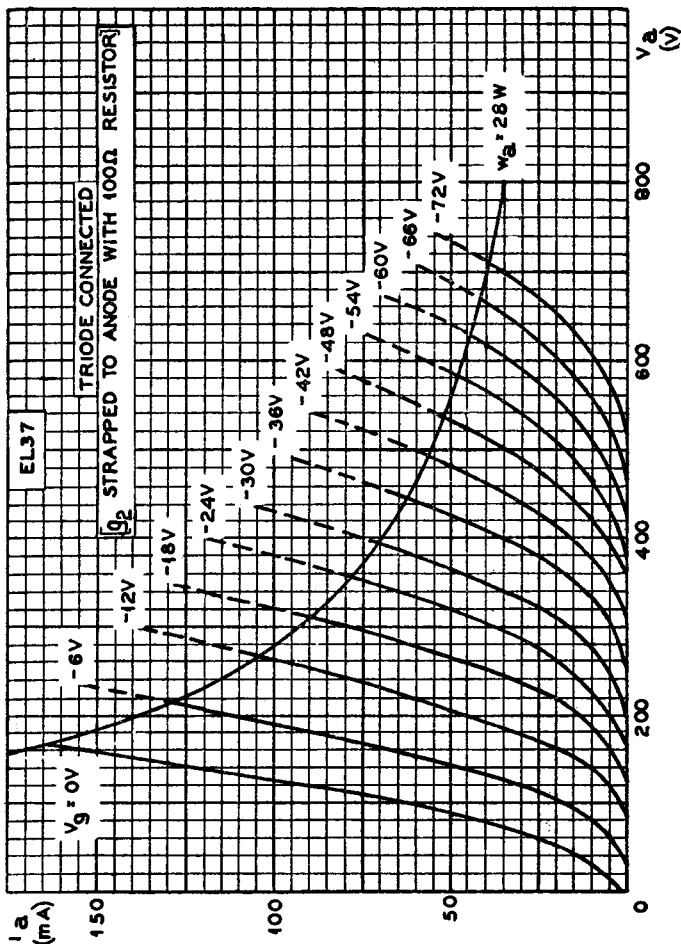
$I_a$ - $V_a$  diagram for  $V_{g2} = 400 V$ .



# OUTPUT PENTODE

# EL37

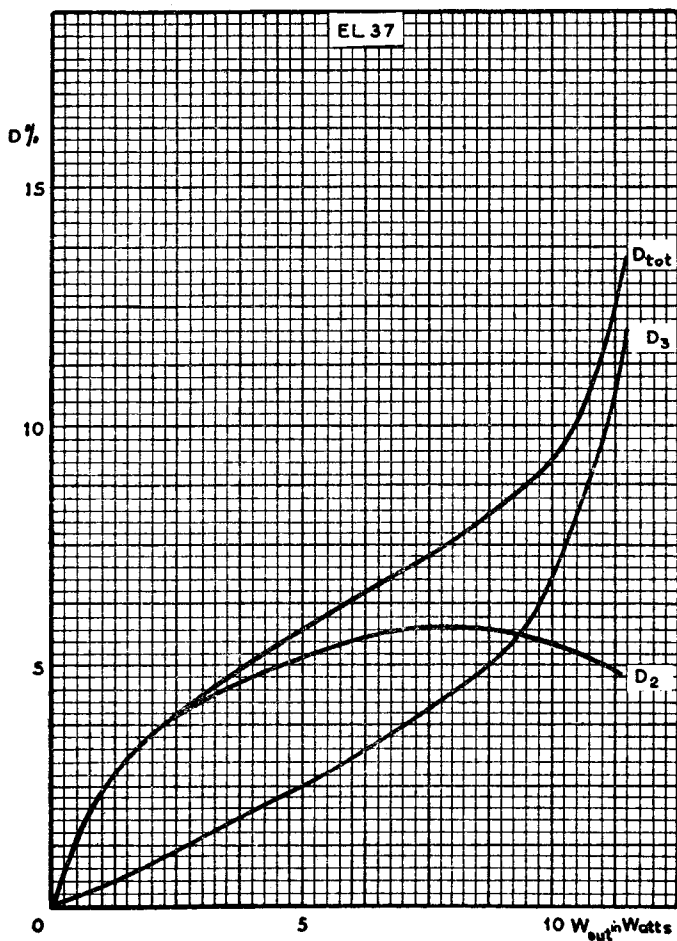
25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



# EL37

## OUTPUT PENTODE

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



Distortion curve for single valve  
at  $V_a = V_{g2} = 250$  V.

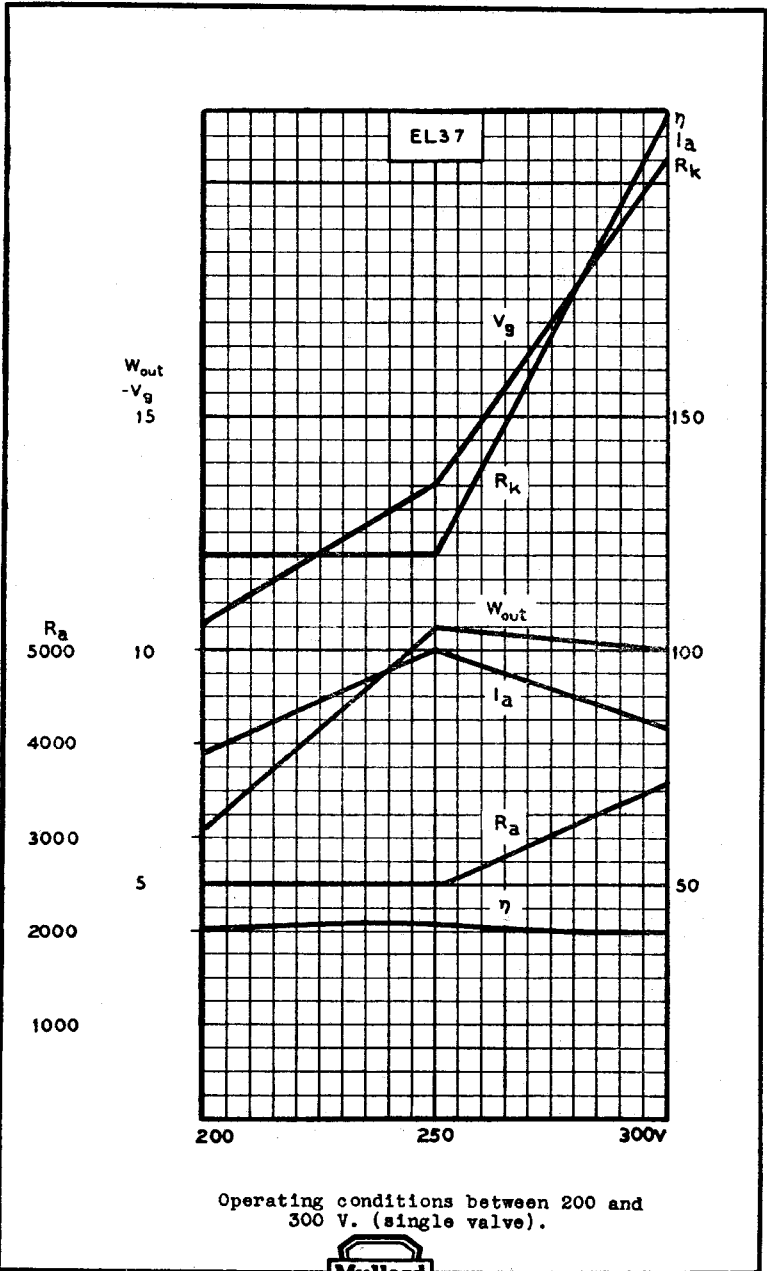




# OUTPUT PENTODE

# EL37

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



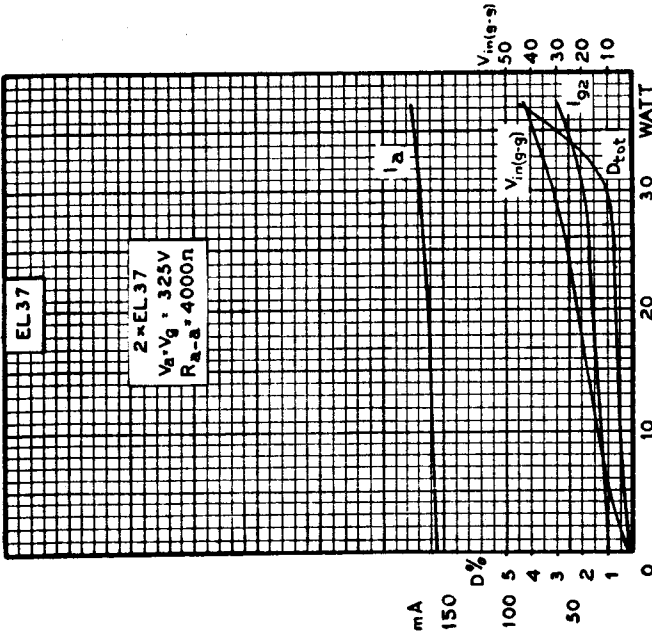
Operating conditions between 200 and 300 V. (single valve).



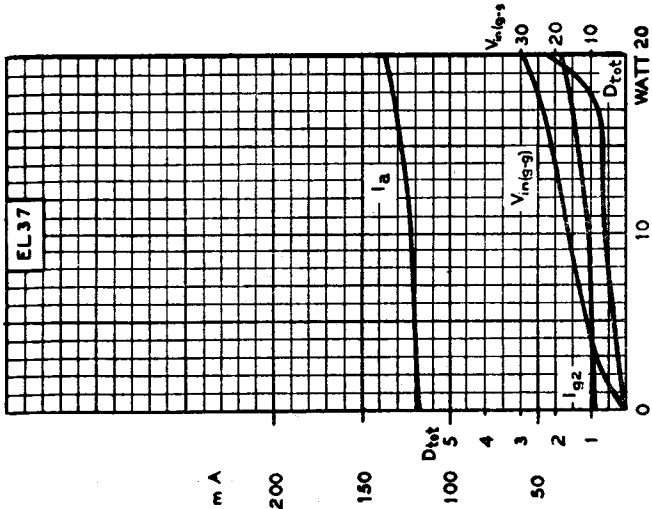
# EL37

## OUTPUT PENTODE

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



Distortion curve for push-pull operation with self bias at  $V_a = V_{g2} = 325 V$ .



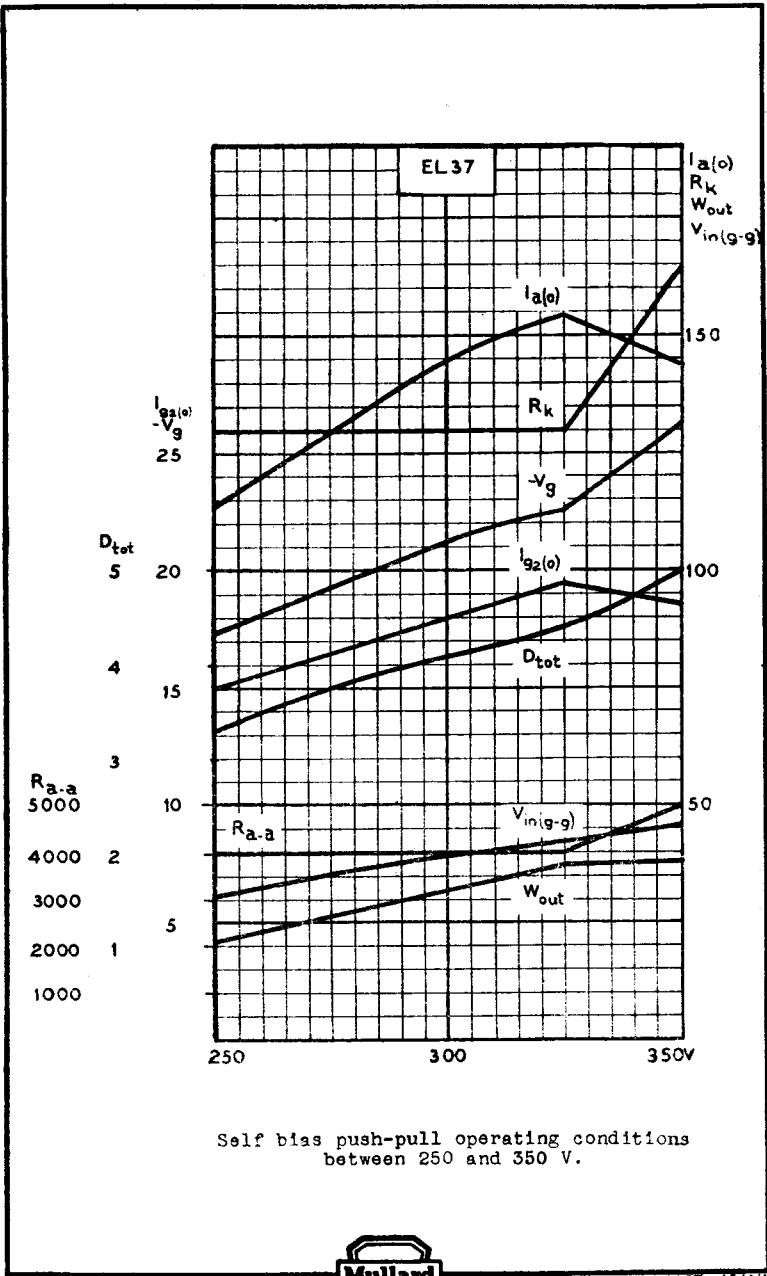
Distortion curve for push-pull operation with self bias at  $V_a = V_{g2} = 250 V$ .



# OUTPUT PENTODE

# EL37

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



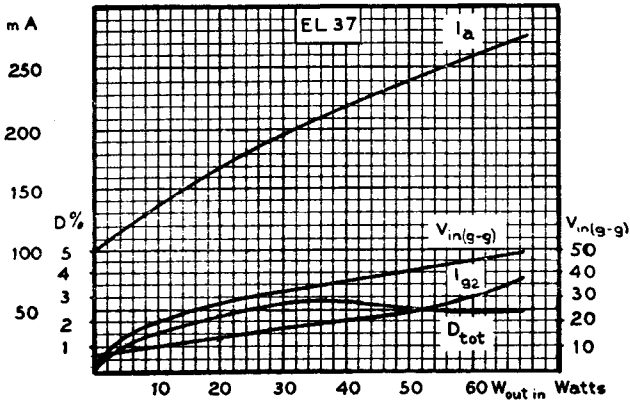
Self bias push-pull operating conditions between 250 and 350 V.



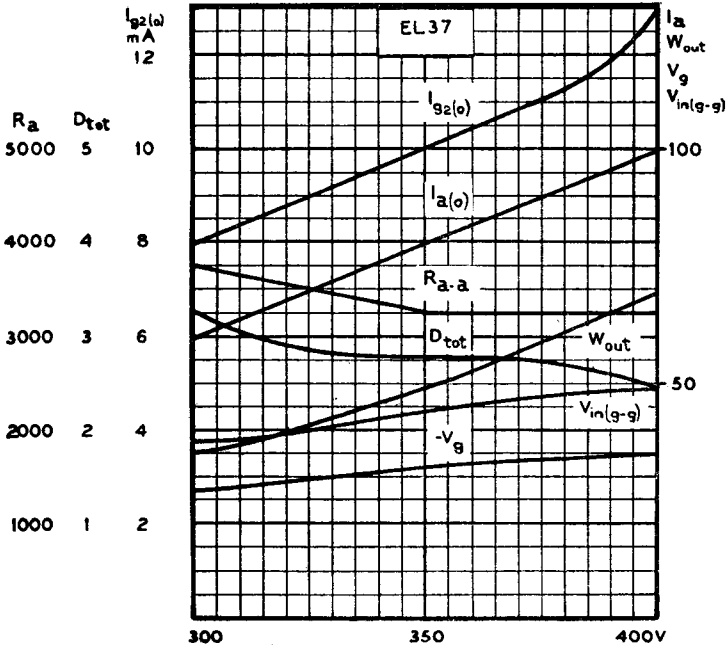
# EL37

## OUTPUT PENTODE

25-watt pentode, particularly suitable for use in push-pull combination for outputs up to 69W., or as drivers for large power triode push-pull output stage.



Distortion curve for push-pull operation with fixed bias at  $V_a = V_{g2} = 400$  V.



Fixed bias push-pull operating conditions between 300 and 400 V.

