

VALVE DATA PREFERRED TYPES **4** OUTPUT PENTODES **E**

OPERATING CONDITIONS (contd.)

EL 33
(contd.)

As push-pull pair (self bias)

V_a	250	V
V_{g2}	250	V
$I_{a(o)}$	2×24	mA
I_a (max. sig.)	2×28.5	mA
$I_{g2(o)}$	2×2.8	mA
I_{g2} (max. sig.)	2×4.6	mA
R_k	150	Ω
R_{a-a}	10	K Ω
P_{out}	8.2	W
$V_{in(r,m,s)}$	6.7	V
D_{tot}	3.1	%

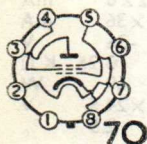
OPERATING CONDITIONS As Triode

Screen connected to anode

V_a	250	V
I_a	20	mA
V_g	-8.5	V
g_m	6.5	mA/V
μ	20	
r_a	3	K Ω
R_k	390	Ω
R_a	7	K Ω
P_{out}	1.1	W
D_{tot}	5	%
$V_{in(r,m,s)}$	5.9	V
$V_{in(r,m,s)} (P_{out}=50 \text{ mW})$	1.1	V

LIMITING VALUES

$V_{a(b)} \text{ max.}$	550	V
$V_a \text{ max.}$	250	V
$p_a \text{ max.}$	9	W
$V_{g2(b)} \text{ max.}$	550	V
$V_{g2} \text{ max.}$	275	V
$p_{g2(o)} \text{ max.}$	1.2	W
$p_{g2} \text{ (max. sig.) max.}$	2.5	W
$I_k \text{ max.}$	55	mA
$R_{g1-k} \text{ max.}$	1	M Ω
$V_{h-k} \text{ max.}$	50	V



BASE :
Octal

DIMENSIONS :
L=126 mm
D=46 mm

Output pentode

EL 37

HEATER

V_h 6.3 V I_h 1.4 A Suitable for A.C. mains operation

CAPACITANCES

C_{out}	9.0	$\mu\mu\text{F}$
C_{in}	17.5	$\mu\mu\text{F}$
C_{a-g1}	1.0	$\mu\mu\text{F}$



4 VALVE DATA PREFERRED TYPES E OUTPUT PENTODES

EL 37 (contd.)

OPERATING CONDITIONS

As Class "A" amplifier

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	Ω
g_m	11.0	mA/V
r_a	13.5	K Ω
μ_{g1-g2}	10	
R_{a-a}	2.5	K Ω
$V_{in(r, m, s.)}$ ($P_{out} = 50$ mW)	0.45	V
P_{out} ($D_{tot} = 10\%$)	10.5	W
$V_{in(r, m, s.)}$ (start of I_{g1})	10.8	V
D_{tot} (start of I_{g1})	13.5	%
P_{out} (start of I_{g1})	11.5	W

As push-pull pair (self bias)

V_a	250	325	V
V_{g2}	250	325	V
$I_{a(o)}$	2×59	2×77	mA
I_a (max. sig.)	2×68	2×90	mA
$I_{g2(o)}$	2×7.5	2×9.75	mA
I_{g2} (max. sig.)	2×18	2×30	mA
R_k	130	130	Ω
R_{a-a}	4	4	K Ω
P_{out}	20	35	W
$V_{in(r, m, s.)}$	2×14.5	2×21.5	V
D_{tot}	2.3	4.4	%

As push-pull pair (fixed bias)

V_a	350	400	V
V_{g2}	350	400	V
$I_{a(o)}$	2×40	2×50	mA
I_a (max. sig.)	2×118	2×138	mA
$I_{g2(o)}$	2×5	2×6	mA
I_{g2} (max. sig.)	2×29	2×36	mA
V_{g1}	-31	-36	V
R_{a-a}	3.25	3.25	K Ω
P_{out}	46	69	W
$V_{in(r, m, s.)}$	2×21.7	2×24.5	V
D_{tot}	2.8	2.5	%

OPERATING CONDITIONS AS TRIODE

Single valve (screen connected to anode by 100 Ω resistor)

V_a	300	400	V
I_a	50	37.5	mA
V_{g1}	-26	-39	V
g_m	6.5	4.5	mA/V
μ	9	9	
r_a	1.4	2	K Ω



VALVE DATA 4 PREFERRED TYPES OUTPUT PENTODES E

OPERATING CONDITIONS AS TRIODE (contd.)

As triode connected push-pull pair (self bias)

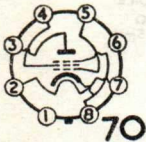
V_b	350	435	V
V_a	320	400	V
I_a (o)	2×56	2×70	mA
I_a (max. sig.)	2×64	2×80	mA
P_a	2×18	2×28	W
R_k	245	245	Ω
R_{a-a}	4	4	K Ω
V_{in} (r, m, s.)	2×21.5	2×27.2	V
P_{out}	12.5	20.6	W
D_{tot}	4.1	4.3	%

EL 37

(contd.)

LIMITING VALUES

$V_{a(b)}$ max.	800	V
V_a max.	400	V
$V_{g2(b)}$ max.	800	V
V_{g2} max.	400	V
V_{h-k} max.	75	V
R_{g1-k} max. (cathode bias)	0.5	M Ω
R_{g1-k} max. (fixed bias)	0.1	M Ω
P_a max.	25	W
P_{g2} max.	6	W
I_k max.	200	mA



BASE :
Octal

DIMENSIONS :

L=131 mm
D=54 mm

Output pentode, for use as line time base output valve in A.C. television receivers. Type EL 38M is metallised

EL 38 EL 38M

HEATER

V_h 6.3 V I_h 1.4 A Suitable for A.C. mains operation

CAPACITANCES

	EL 38M	EL 38	
C_{in}	18	18	$\mu\mu F$
C_{out}	9.5	6.5	$\mu\mu F$
C_{a-g1}	<1.0	<1.2	$\mu\mu F$

CHARACTERISTICS

V_a	275	V
V_{g2}	275	V
I_a	91	mA
I_{g2}	11	mA
V_{g1}	-9	V
g_m	14	mA/V
μ_{g1-g2}	16.5	
r_a	20	K Ω

