

4 VALVE DATA PREFERRED TYPES D VOLTAGE AMPLIFYING TRIODES

EC 31 LIMITING VALUES (contd.)



BASE :
Octal

DIMENSIONS:
L=124 mm
D=48 mm

ECC 31 Double diode with common cathode

HEATER

V_h 6.3 V I_h 0.95 A Suitable for A.C. mains operation

CAPACITANCES

$C_{a'-g'}$	3.4	$\mu\mu\text{F}$	$C_{c''-g''}$	3.75	$\mu\mu\text{F}$
$C'_{g'-k}$	4.0	$\mu\mu\text{F}$	$C_{g''-k}$	4.0	$\mu\mu\text{F}$
$C_{a'-k}$	1.9	$\mu\mu\text{F}$	$C_{a''-k}$	1.0	$\mu\mu\text{F}$

CHARACTERISTICS

Each section

V_b	250	V	V_g	-4.6	V
I_a	6.0	mA	g_m	2.3	mA/V
μ	32		r_a	14	K Ω

OPERATING CONDITIONS

As R.C. coupled amplifier

V_b (V)	R_a (K Ω)	I_a (mA)	R_k (K Ω)	V_{out} V_{in}	V_{out}^* (V)	D_{tot} (%)	R_{g1}^{**} (K Ω)
400	47	3.9	1.2	21	67	3.7	150
350	47	3.4	1.2	20.5	57	3.6	150
300	47	2.9	1.2	20	48	3.5	150
250	47	2.4	1.2	19.5	37	3.4	150
200	47	1.9	1.2	19.5	26	3.2	150
400	100	2.1	2.7	25	81	3.0	330
350	100	1.8	2.2	25	69	2.9	330
300	100	1.6	2.2	24.5	54	2.8	330
250	100	1.3	2.2	24.5	44	2.6	330
200	100	1.05	2.2	24	32	2.4	330



OPERATING CONDITIONS (contd.)

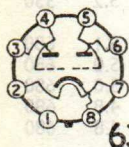
ECC 31
(contd.)

V_b (V)	R_a (K Ω)	I_a (mA)	R_k (K Ω)	V_{out} V_{in}	V_{out}^* (V)	D_{tot} (%)	R_{g1}^{**} (K Ω)
400	220	1.1	3.9	27.5	81	2.3	680
350	220	0.95	3.9	27.5	68	2.2	680
300	220	0.85	3.9	27	56	2.2	680
250	220	0.7	3.9	27	45	2.1	680
200	220	0.55	3.9	26.5	34	2.0	680

* V_{out} = Output voltage at start of I_g or at $D_{tot} = 10\%$

** R_{g1} = Grid resistance of following valve

LIMITING VALUES



V_a max.	300	V
p_a max. (each section)	5	W
I_k max.	2×25	mA
R_{g-k} max.	1.5	M Ω
V_{h-k} max.	50	V

BASE :
Octal

DIMENSIONS :
L = 106 mm
D = 46 mm

Double triode with separate cathodes

ECC 33

HEATER

V_h 6.3 V I_h 0.4A
connected in series

The heaters of the two cathodes are

CAPACITANCES

$C_{a-a'}$	0.75	$\mu\mu\text{F}$
C_{a-g} (each section)	2.5	$\mu\mu\text{F}$
C_{g-k} (each section)	3.5	$\mu\mu\text{F}$
$C_{a'-k'}$	1.2	$\mu\mu\text{F}$
$C_{a''-k''}$	1.5	$\mu\mu\text{F}$

g', a', k' —pins 1, 2 & 3

g'', a'', k'' —pins 4, 5 & 6

CHARACTERISTICS

Each section

V_a	250	V
V_g	-4.0	V
I_a	9.0	mA
g_m	3.6	mA/V
μ	35	
r_a	9.7	K Ω

