

DOUBLE TRIODE

ECC82

Low μ double triode having separate cathodes, primarily intended for use as an amplifier or oscillator.

HEATER

Suitable for series or parallel operation, a.c. or d.c. The heater is centre-tapped and the two sections may be operated in series or in parallel with one another.

Series V_h applied between pins 4 and 5
 Parallel V_h applied between pin 9 and pins 4 and 5 connected together

	Series	Parallel	
V_h	12.6	6.3	V
I_h	150	300	mA

CAPACITANCES (measured without an external shield)

* C_{a-g}	1.5	pF	←
* C_{in}	1.8	pF	
$C_{out'}$	370	mpF	
$C_{out''}$	250	mpF	
* C_{g-h}	<135	mpF	
$C_{a'-a''}$	<1.1	pF	
$C_{a''-g'}$	<60	mpF	
$C_{a'-g''}$	<110	mpF	
$C_{g'-g''}$	<10	mpF	

*Each section

CHARACTERISTICS (each section)

V_a	100	250	V
I_a	11.8	10.5	mA ←
V_g	0	-8.5	V
g_m	3.1	2.2	mA/V
μ	19.5	17	←
r_a	6.25	7.7	k Ω ←
V_g max. ($I_g = +0.3\mu A$)		-1.3	V ←

OPERATING CONDITIONS (each section)

As an a.f. amplifier

V_b (V)	R_a (k Ω)	I_k (mA)	R_k (k Ω)	$\frac{V_{out}}{V_{in}}$	V_{out}^* (V _{r.m.s.})	D_{tot}^* (%)	$R_g^\dagger$ (k Ω)
400	47	5.0	1.2	13.5	59	6.7	150
350	47	4.3	1.2	13.5	51	6.6	150
300	47	3.7	1.2	13.5	43	6.5	150
250	47	3.0	1.2	13.5	34	6.4	150
200	47	2.4	1.2	13.5	26	6.3	150
150	47	1.8	1.2	13.5	18	6.1	150
100	47	1.2	1.2	13.5	11	5.6	150
400	100	2.6	2.2	14	57	6.2	330
350	100	2.3	2.2	14	49	6.1	330
300	100	2.0	2.2	14	41	6.0	330
250	100	1.6	2.2	14	32	5.9	330
200	100	1.3	2.2	14	25	5.8	330
150	100	1.0	2.2	14	17	5.6	330
100	100	0.7	2.2	14	10	4.8	330
400	220	1.3	3.9	14.5	50	5.1	680
350	220	1.2	3.9	14.5	43	5.0	680
300	220	1.0	3.9	14.5	36	4.9	680
250	220	0.8	3.9	14.5	28	4.8	680
200	220	0.7	3.9	14.5	22	4.7	680
150	220	0.5	3.9	14.5	15	4.4	680
100	220	0.3	3.9	14.5	8.0	4.0	680

*Output voltage and distortion at start of positive grid current. At lower output voltage, the distortion is approximately proportional to the output voltage.

$\dagger R_g$ = grid resistor of following valve.

LIMITING VALUES (each section)

$V_{a(b)}$ max.	550	V
V_a max.	300	V
p_a max.	2.75	W
I_k max.	20	mA
* $I_{k(pk)}$ max.	150	mA $\leftarrow$
$-V_g$ max.	100	V $\leftarrow$
$-V_g(pk)$ max.	250	V $\leftarrow$
R_{g-k} max. (fixed bias)	1.5	M Ω
V_{h-k} max.	180	V
$\dagger R_{h-k}$ max.	20	k Ω

$\dagger$ When used as a phase inverter immediately preceding the output stage, R_{h-k} max. may be 150k Ω .

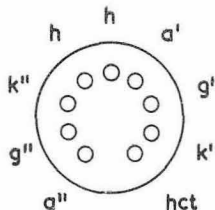
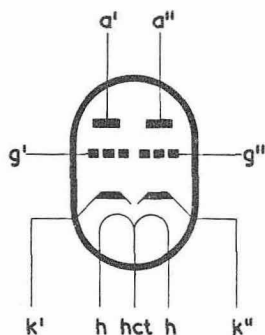
*Maximum pulse duration = 200 μ s.

OPERATING NOTES

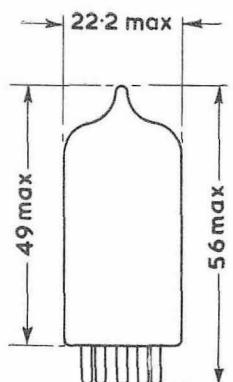
This valve can be used without special precautions against microphony in equipment where the input voltage is not less than 10mV for an output of 50mW (or 100mV for 5W output).

With V_h applied between pin 9 and pins 4 and 5 connected together, and with the centre tap of the heater transformer earthed the section connected to pins 6, 7 and 8 is the most favourable with regard to hum.

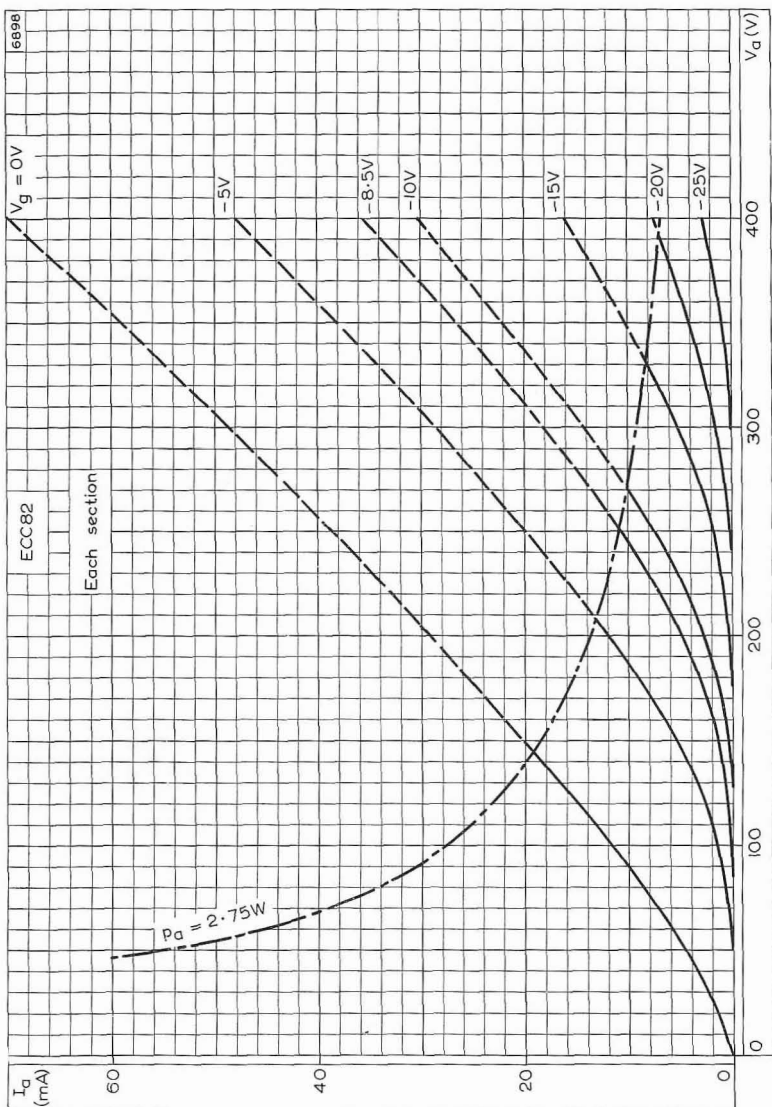
6922



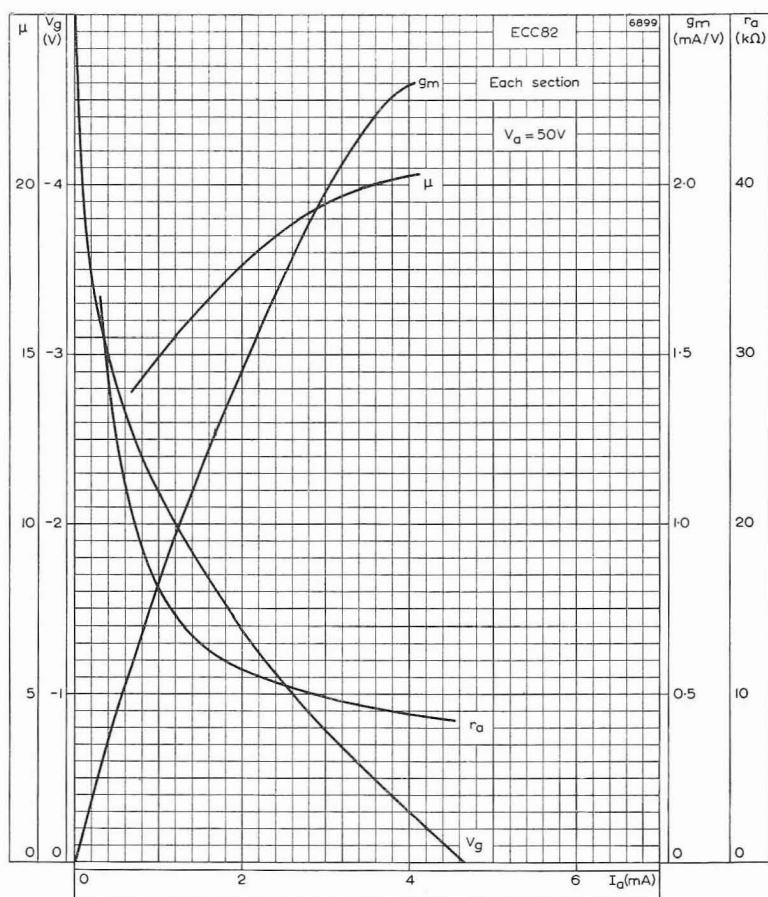
B9A Base



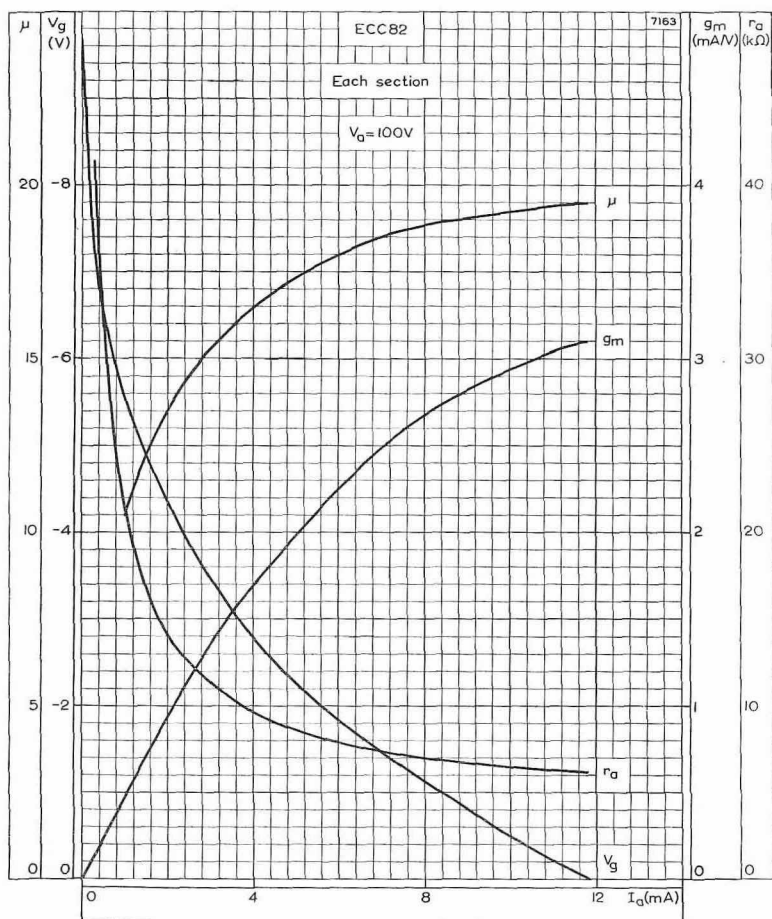
All dimensions in mm



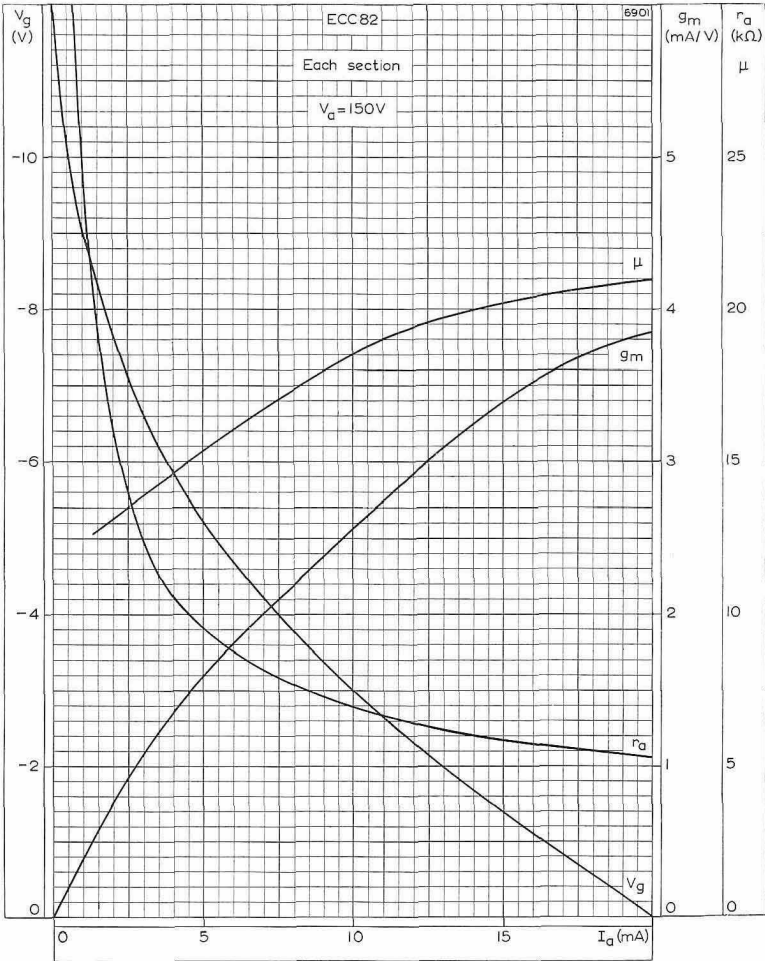
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH GRID VOLTAGE AS PARAMETER



ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT. $V_a = 50V$

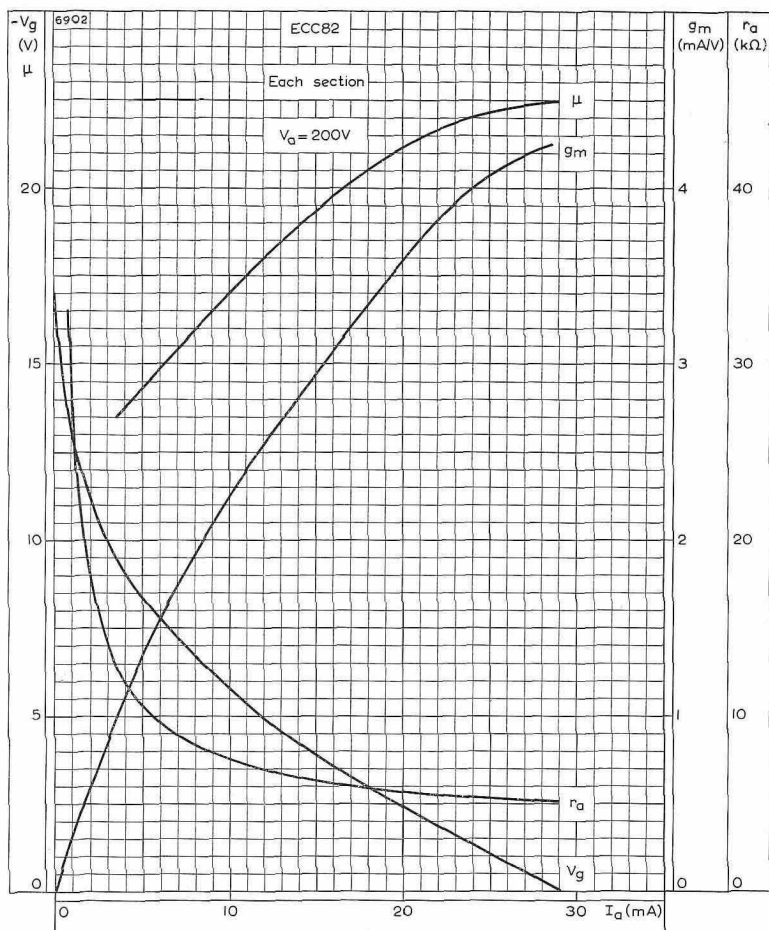


ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT. $V_a = 100V$

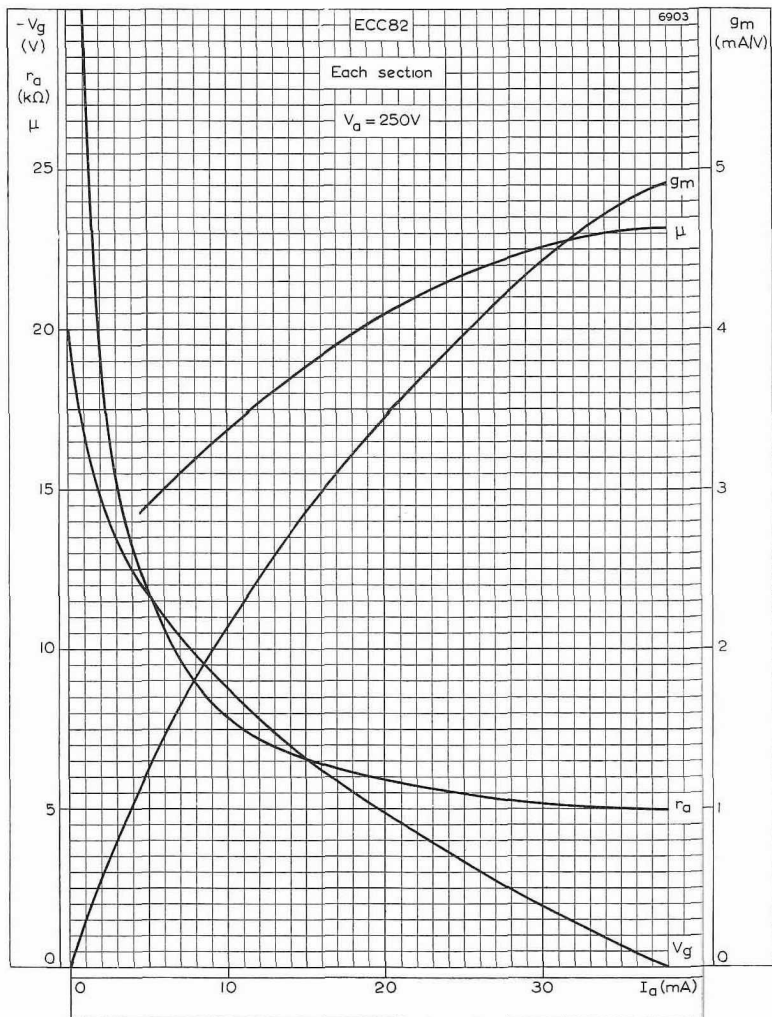


ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT. $V_a = 150V$

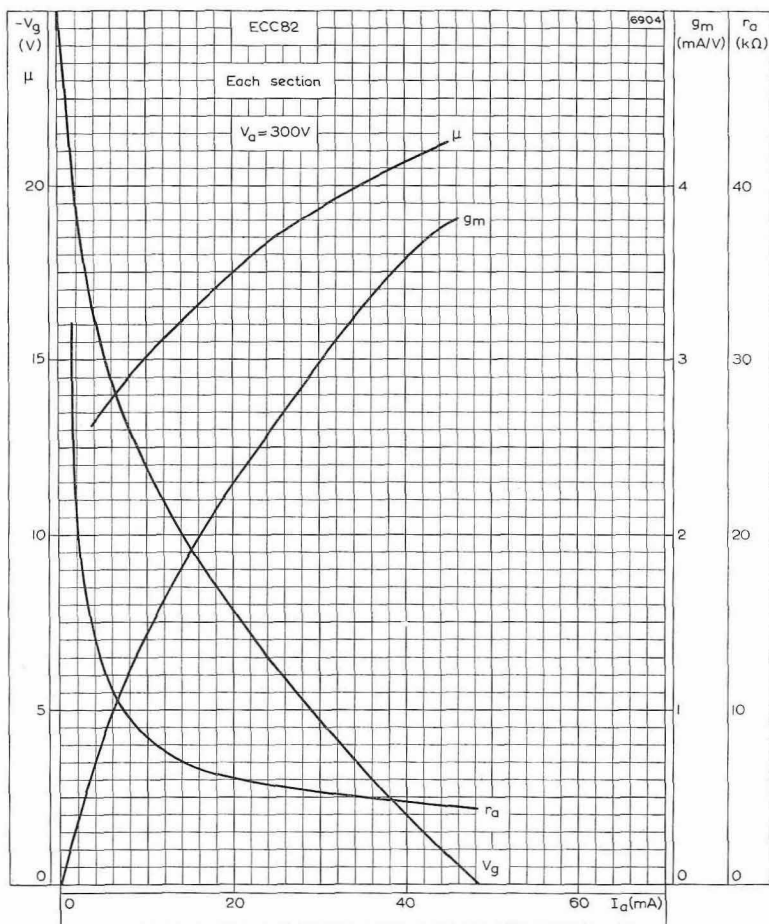




ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT. $V_a = 200V$



ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT. $V_a = 250V$



ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT. $V_a = 300V$

