

VARIABLE-MU R.F. PENTODE

UF89

Variable-mu pentode for use as r.f. or i.f. amplifier in
f.m./a.m. receivers with series connected heaters.

HEATER

I_h	100	mA
V_h	12.6	V

CAPACITANCES

C_{In}	5.5	pF
C_{out}	5.1	pF
C_{a-g1}	<2.0	mpF
C_{g1-h}	50	mpF
C_{g1-g2}	2.1	pF

CHARACTERISTICS

V_a	170	170	V
V_{g3}	0	0	V
V_{g2}	100	110	V
V_{g1}	-1.2*	-2.0	V
I_a	12	12	mA
I_{g2}	4.4	3.9	mA
g_m	4.4	3.8	mA/V
r_a	400	525	kΩ
μ_{g1-g2}	21	—	

*At this voltage, grid current may occur. If this is not acceptable the negative bias should be increased to -2.0V.

OPERATING CONDITIONS

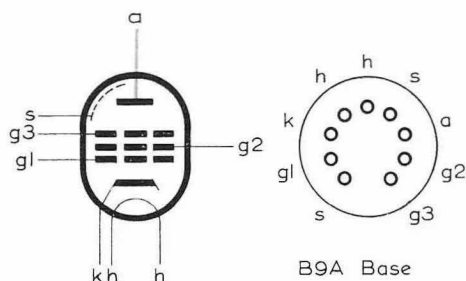
$V_a = V_b$	170	170	200	200	V
V_{g3}	0	0	0	0	V
R_{g2}	22	15	33	24	kΩ
V_{g1}	-0.5*	-2.0	-0.5*	-2.0	V
R_k	—	130	—	130	Ω
R_{g1}	10	—	10	—	MΩ
I_a	11.8	11	11.3	11.1	mA
I_{g2}	4.3	3.9	3.9	3.8	mA
g_m	5.2	3.8	5.15	3.85	mA/V
r_a	400	450	475	550	kΩ
R_{eq}	2.6	4.5	2.5	4.2	kΩ
$g_m (V_{g1} = -20V)$	110	110	150	160	μA/V
$r_g (f = 50Mc/s)$	—	10	—	10	kΩ

*This voltage is produced by the grid current flowing through the grid resistor and the steady current of the diode. If this condition is not acceptable the negative grid bias should be increased to -2.0V.

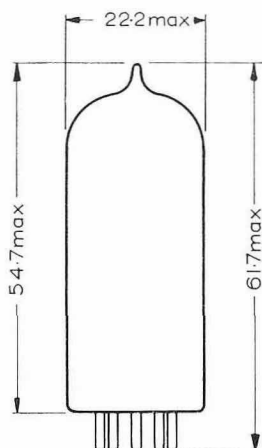
LIMITING VALUES

$V_{a(b)}$ max.	550	V
V_a max.	250	V
p_a max.	2.25	W
$V_{g2(b)}$ max.	550	V
V_{g2} max.	250	V
p_{g2} max.	450	mW
I_k max.	16.5	mA
* R_{g1-k} max.	3.0	M Ω
R_{g3-k} max.	10	k Ω
V_{h-k} max.	150	V
R_{h-k} max.	20	k Ω

*With grid current biasing R_{g1-k} max. = 22M Ω .

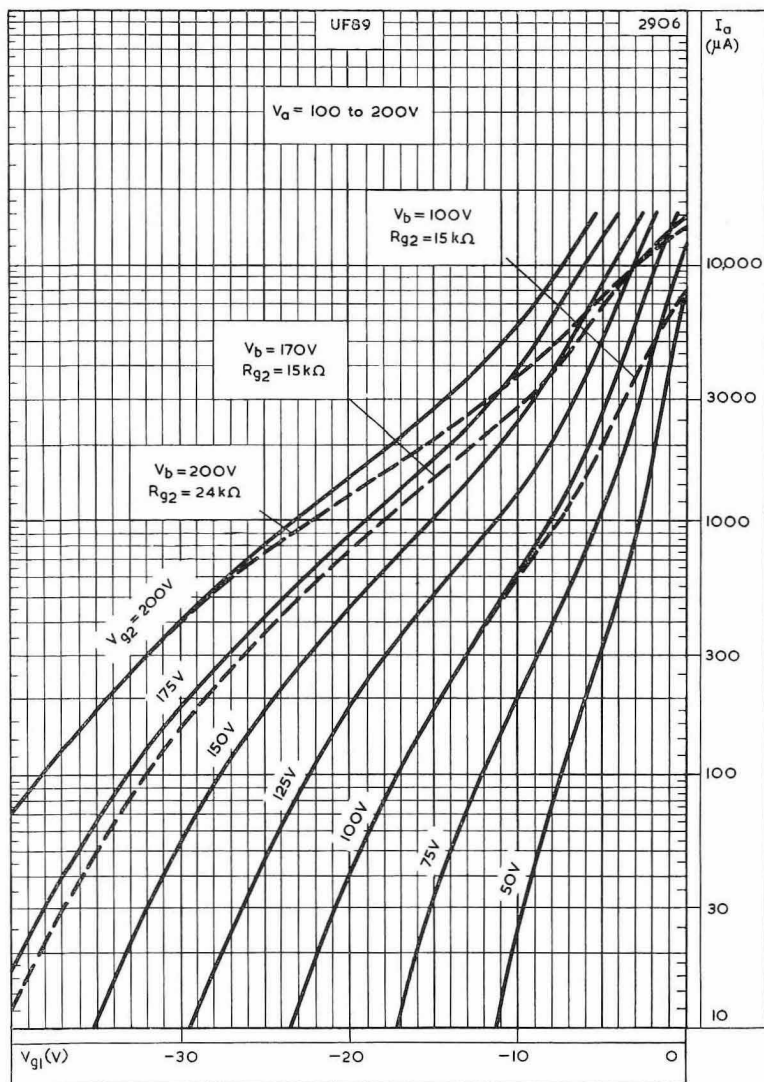


B9A Base

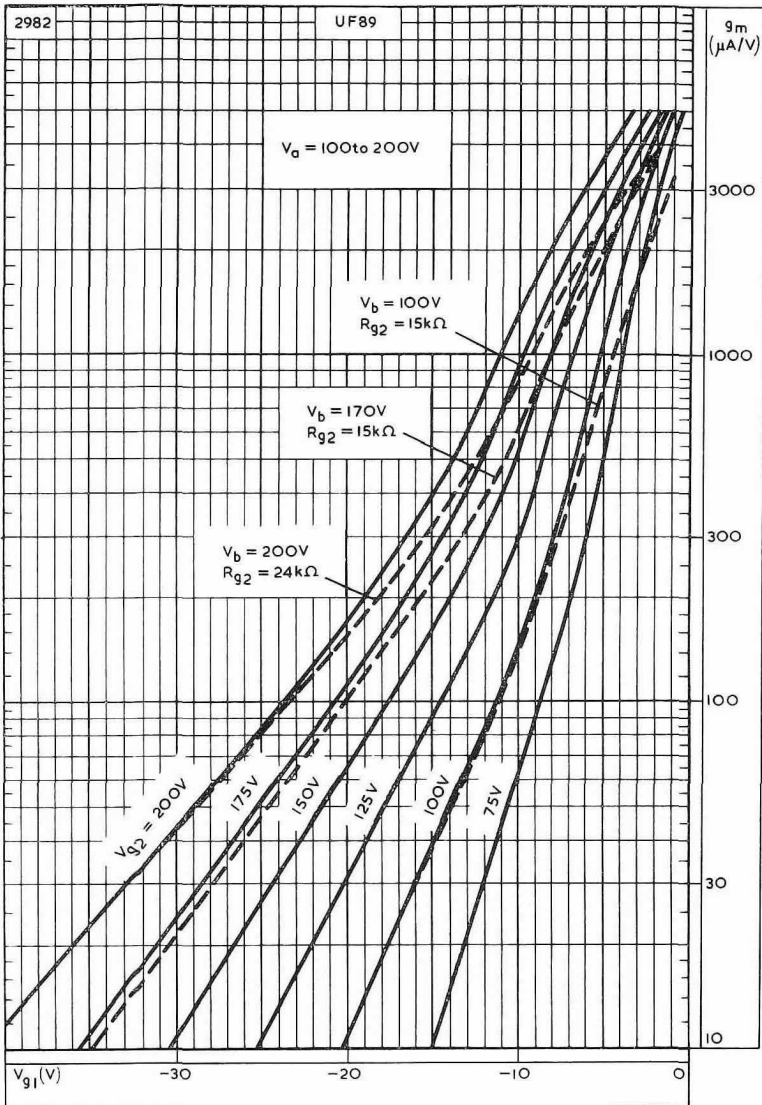


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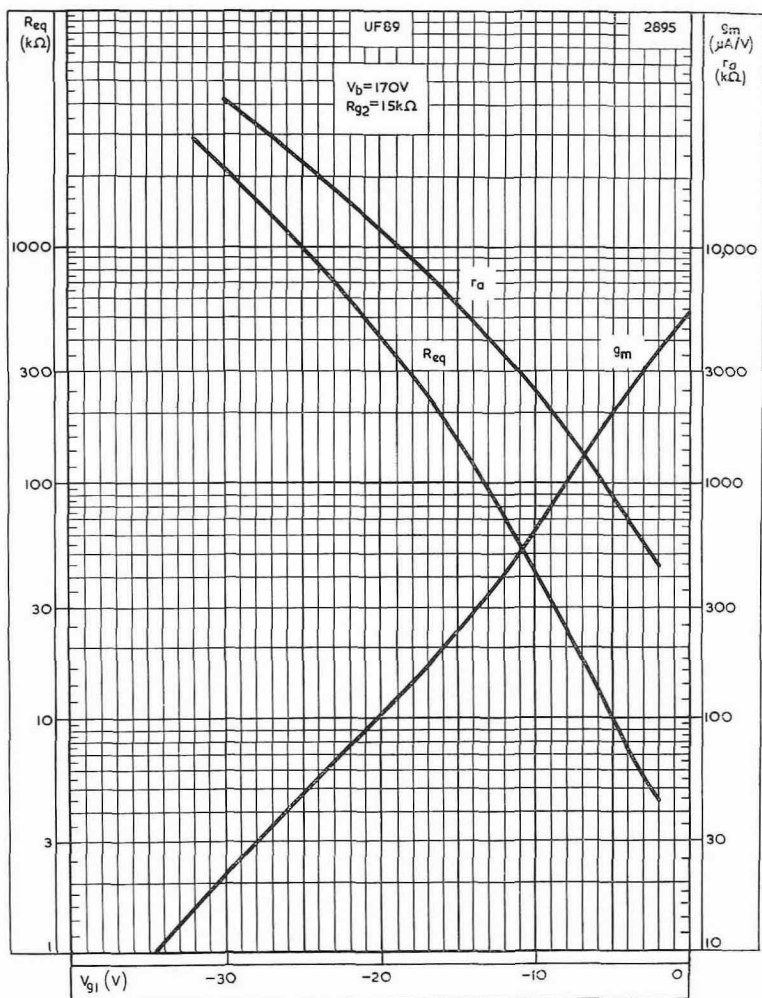
All dimensions in mm



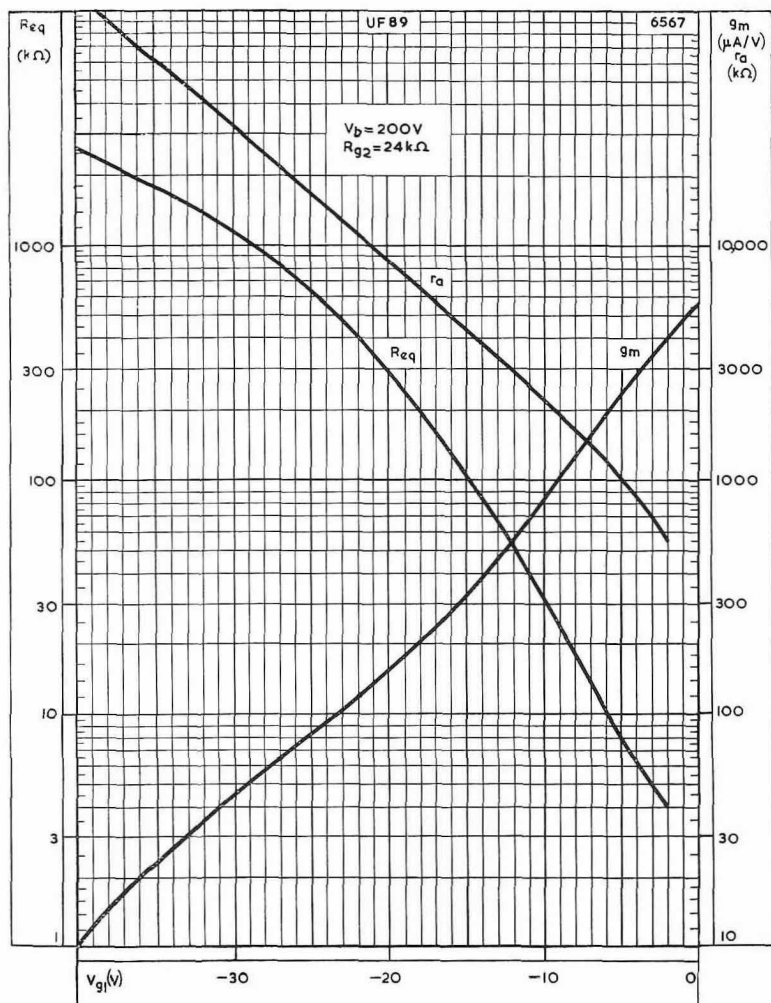
ANODE CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE
WITH SCREEN-GRID VOLTAGE AS PARAMETER



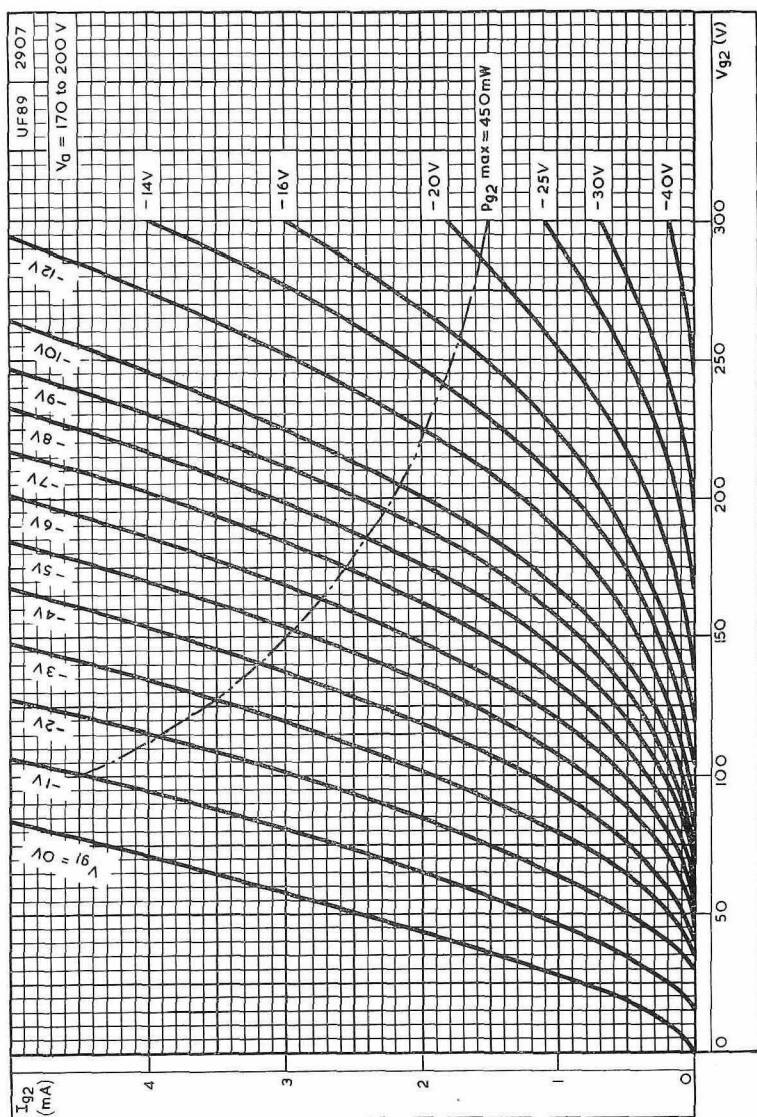
MUTUAL CONDUCTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE
WITH SCREEN-GRID VOLTAGE AS PARAMETER



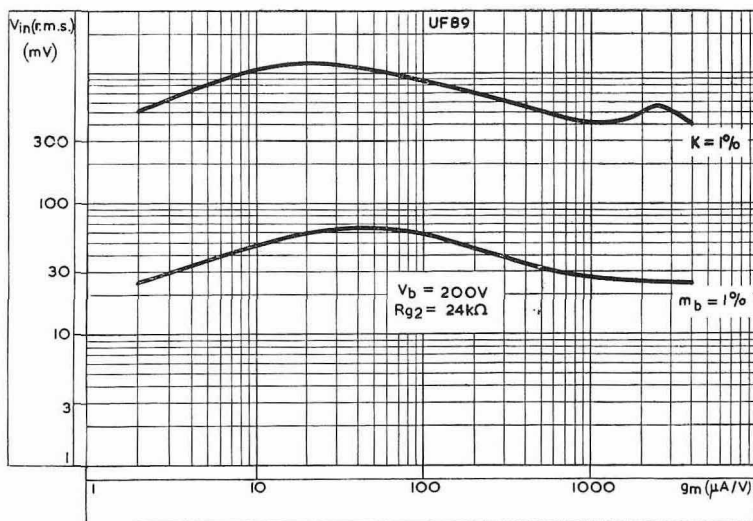
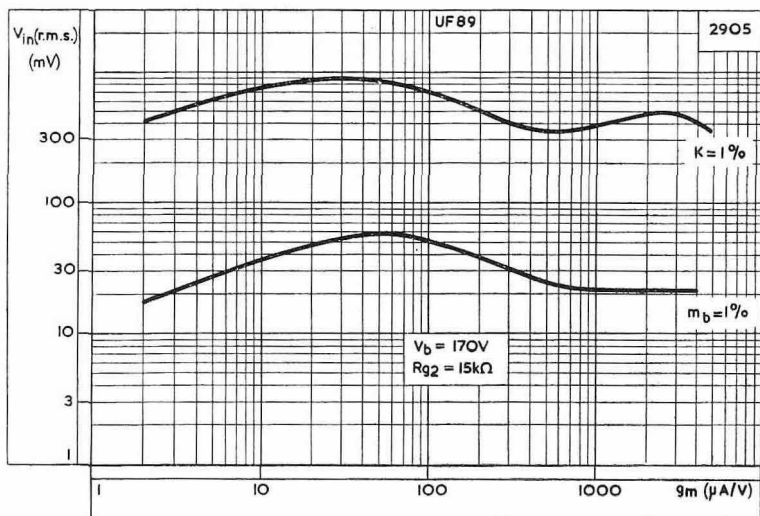
MUTUAL CONDUCTANCE, ANODE IMPEDANCE, AND EQUIVALENT NOISE RESISTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE
 $V_b = 170V$



MUTUAL CONDUCTANCE, ANODE IMPEDANCE, AND EQUIVALENT NOISE RESISTANCE PLOTTED AGAINST CONTROL-GRID VOLTAGE
 $V_b = 200V$



SCREEN-GRID CURRENT PLOTTED AGAINST SCREEN-GRID VOLTAGE
 WITH CONTROL-GRID VOLTAGE AS PARAMETER



CROSS MODULATION AND MODULATION HUM CURVES