

SUB-MINIATURE VOLTAGE AMPLIFYING PENTODE

DF70

A Sub-miniature voltage amplifying pentode
for use in hearing aids.

FILAMENT

V_f	0.625	V
I_f	25	mA

MOUNTING POSITION Any

CAPACITANCES - Measured without external screen

C_{in}	1.6	$\mu\mu F$
C_{out}	2.4	$\mu\mu F$
C_{a-g1}	< 0.5	$\mu\mu F$

CHARACTERISTICS

V_a	30	V
V_{g2}	30	V
V_{g1}	0	V
I_a	0.375	mA
I_{g2}	0.125	mA
g_m	0.22	mA/V
r_a	0.5	$m\Omega$

OPERATING CONDITIONS AS RC-COUPLED AMPLIFIER
(see circuit overleaf)

V_b	30	45	V
* V_{g1}	-0.625	-0.625	V
R_{g2}	1.5 3.3	1.5 3.3	$M\Omega$
I_k	48 24	81 40	μA
R_a	0.47 1.0	0.47 1.0	$M\Omega$
$\frac{V_{out}}{V_{in}}$	37 44	43 57	
R_{g1} (following valve)	3.3	3.3	$M\Omega$

* This voltage may be obtained from a separate source (e.g. the voltage drop across the filament of the previous valve) or from a grid current biasing resistor ($R_{g1} = 22 M\Omega$)



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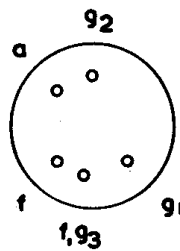
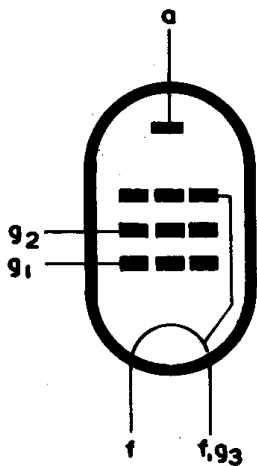
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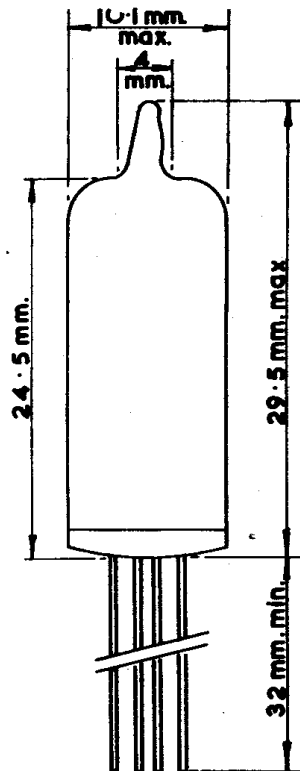
LIMITING VALUES

V_a max.	45	V
V_{g2} max.	45	V
I_k max.	0.5	mA

ARRANGEMENT OF ELECTRODES AND BASE CONNECTIONS



DIMENSIONS



A spot of green lacquer is placed on the base next to the anode lead.

IMPORTANT NOTE

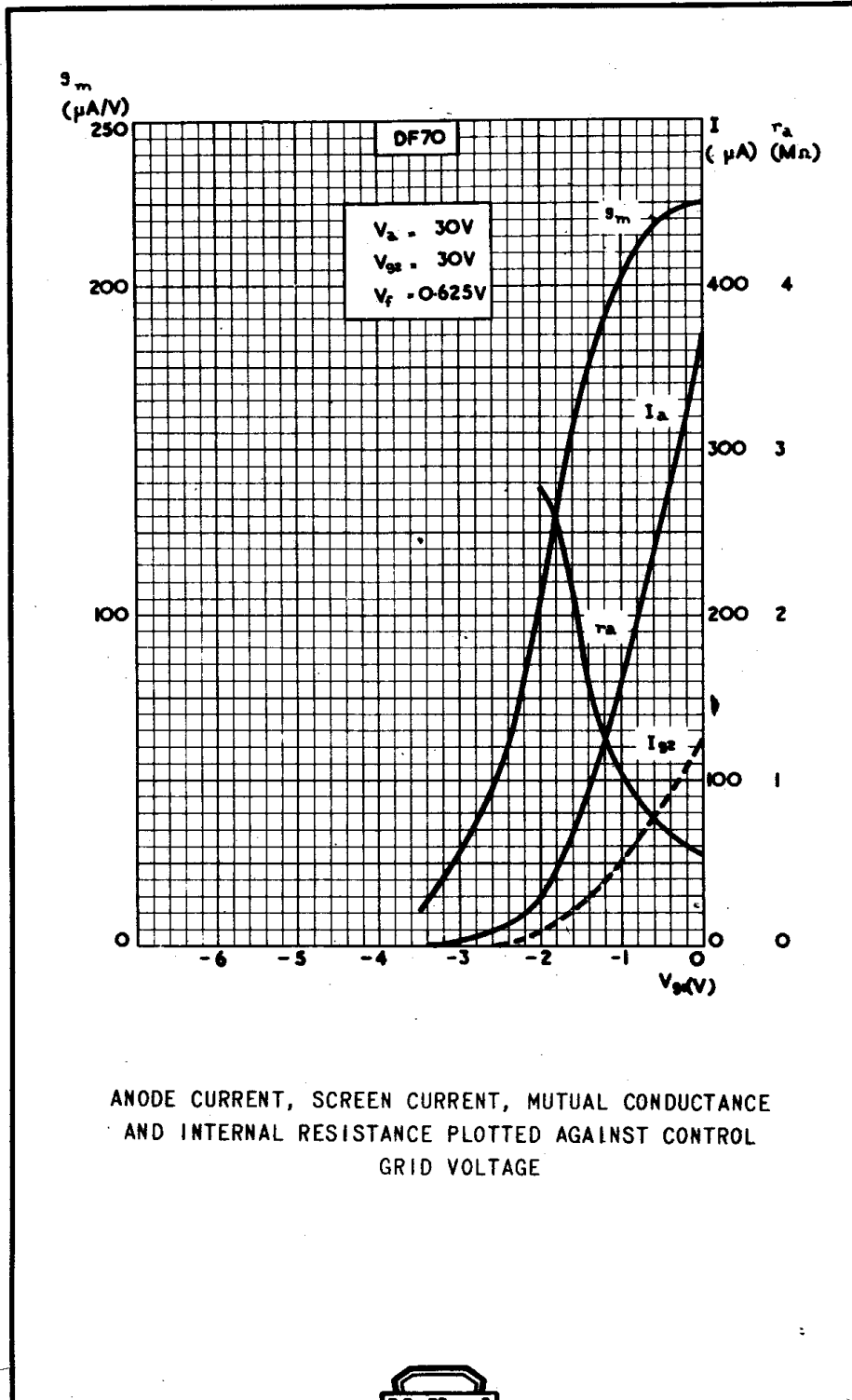
Direct soldered connections to the leads of this valve must be at least 5mm from the seal and any bending of the valve leads must be at least 1.5mm from the seal.



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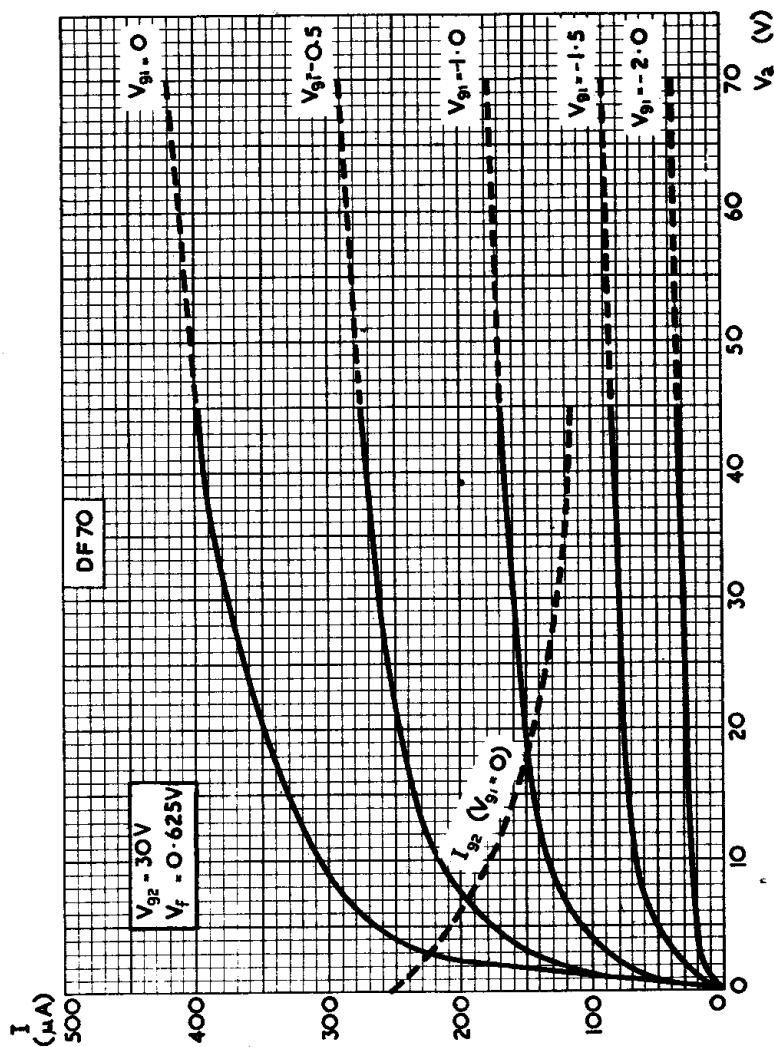
ANODE CURRENT, SCREEN CURRENT, MUTUAL CONDUCTANCE
AND INTERNAL RESISTANCE PLOTTED AGAINST CONTROL
GRID VOLTAGE



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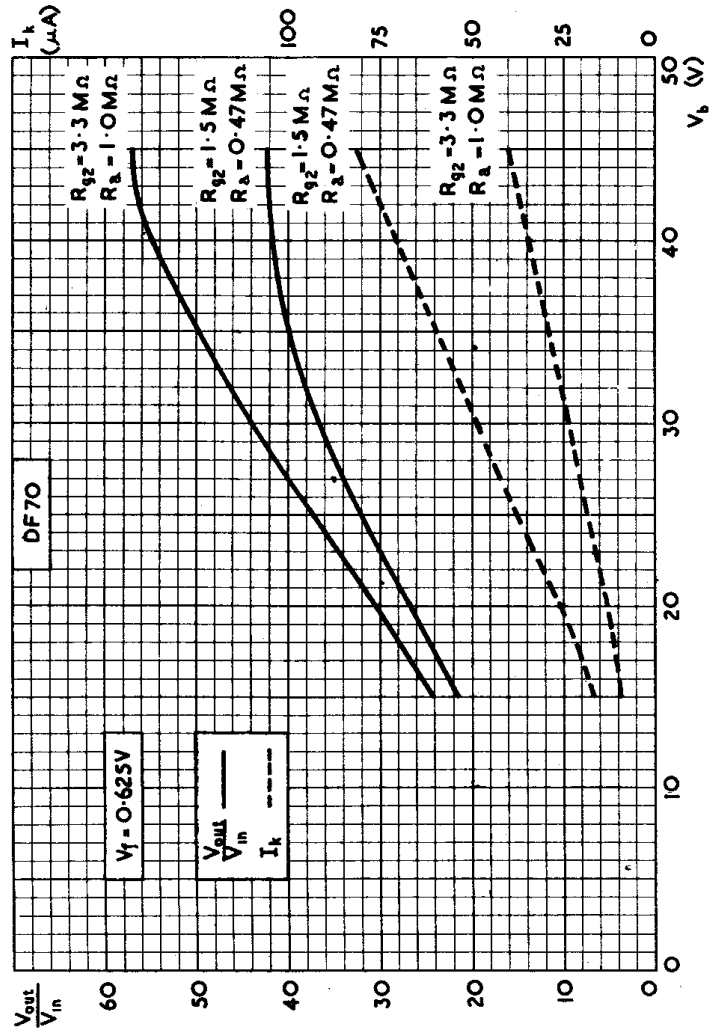
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE



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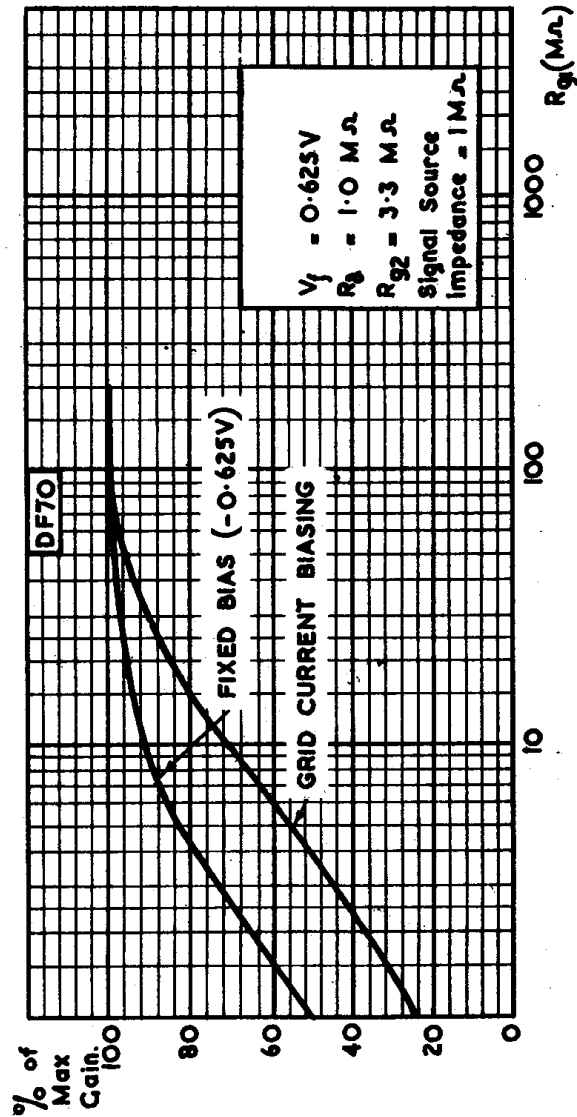
VOLTAGE GAIN AND CATHODE CURRENT PLOTTED AGAINST
H.T. BATTERY VOLTAGE



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PERCENTAGE OF MAXIMUM GAIN PLOTTED AGAINST
GRID LEAK RESISTANCE

