

SPECIAL QUALITY WIDEBAND OUTPUT PENTODE

E55L

Special quality high slope output pentode intended for general industrial applications where stability of characteristics and long life are required.

This data should be read in conjunction with GENERAL NOTES—SPECIAL QUALITY VALVES which precede this section of the handbook, and the index numbers are used to indicate where reference should be made to a specific note.

HEATER

V_h^1	6.3	V
I_h	600	mA

CAPACITANCES²

Pentode connected

Shielded

	Minimum	Average	Maximum	
C_{a-g1}	—	80	120	mpF
C_{in}	15	18	21	pF
$C_{in} (w) (I_k = 55.5mA)$	—	28	—	pF
C_{out}	5.8	6.5	7.2	pF

Unshielded

C_{a-g1}	—	110	150	mpF
C_{in}	15	18	20	pF
$C_{in} (w) (I_k = 55.5mA)$	—	28	—	pF
C_{out}	3.6	4.0	4.4	pF

Triode connected

Shielded

C_{a-g}	5.5	6.2	6.9	pF
C_{in}	10	11.8	13.6	pF
C_{out}	9.4	10.5	11.6	pF
C_{h-k}	—	6.0	—	pF

Unshielded

C_{a-g}	5.6	6.3	7.0	pF
C_{in}	10	11.8	13.6	pF
C_{out}	7.0	7.8	8.6	pF
C_{h-k}	—	6.0	—	pF

CHARACTERISTICS³

Pentode connected

V_a	125	V
V_{g2}	125	V
V_{g3}	0	V
V_{g1}	-3.0	V
R_k	0	Ω
I_a	50	mA
I_{g2}	5.5	mA
g_m	45	mA/V
r_a	20	k Ω
μ_{g1-g2}	30	
r_{g1} ($f = 50\text{Mc/s}$)	1.0	k Ω

Triode connected

V_a	125	V
I_a	55.5	mA
V_g	-3.0	V
g_m	50	mA/V
μ	30	
r_a	600	Ω

OPERATING CONDITIONS

V_{a-e}	140	V
V_{g2-e}	140	V
V_{g3-k}	0	V
V_{g1-e}	+12	V
R_k	270	Ω
I_a	50	mA
I_{g2}	5.5	mA
g_m	45	mA/V

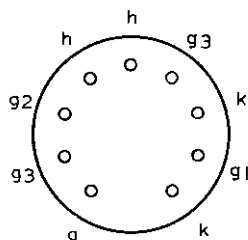
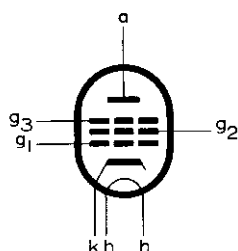
CHARACTERISTIC RANGE VALUES FOR EQUIPMENT DESIGN ←

	Average	Initial range	End of life*	
Anode Current at $V_{a-e} = 140\text{V}$, $V_{g2-e} = 140\text{V}$ $V_{g1-e} = +12\text{V}$, $R_k = 270\Omega$	50	48 to 52	—	mA ←
Grid-cathode voltage at $V_{a-e} = 140\text{V}$, $V_{g2-e} = 140\text{V}$ $V_{g1-e} = +12\text{V}$, $R_k = 270\Omega$	-3.0	-2.3 to -3.7	-1.8	V ←
Screen-grid current at $V_{a-e} = 140\text{V}$, $V_{g2-e} = 140\text{V}$ $V_{g1-e} = +12\text{V}$, $R_k = 270\Omega$	5.5	4.5 to 6.5	—	mA ←
Mutual conductance at $V_{a-e} = 140\text{V}$, $V_{g2-e} = 140\text{V}$ $V_{g1-e} = +12\text{V}$, $R_k = 270\Omega$	45	38 to 52	$\Delta g_m \text{ max.} = 25\%$	mA/V ←
Negative control-grid current (max.) at $V_{a-e} = 140\text{V}$, $V_{g2-e} = 140\text{V}$ $V_{g1-e} = +12\text{V}$, $R_k = 270\Omega$	—	—	2.0	$\mu\text{A} \leftarrow$

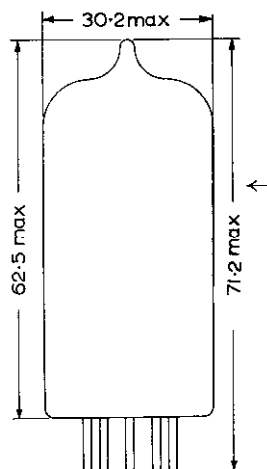
*To allow for valve deterioration during life, circuits should be designed to function with a valve in which one or more of the characteristics have changed to the values stated.

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OUTPUT PENTODE**

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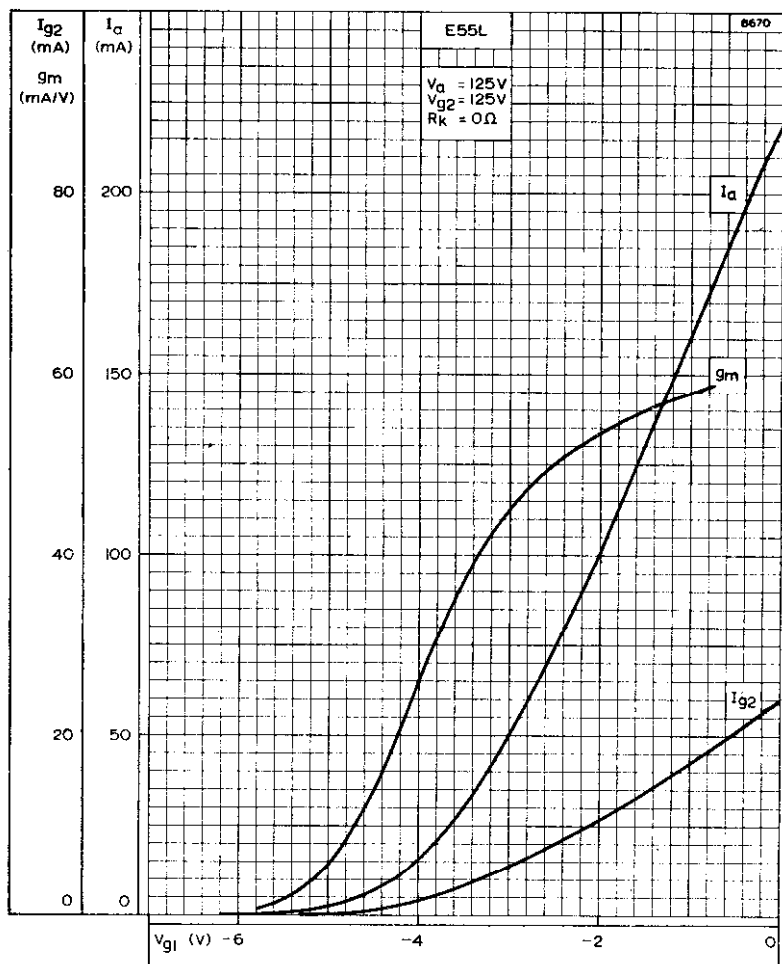
B9D Base



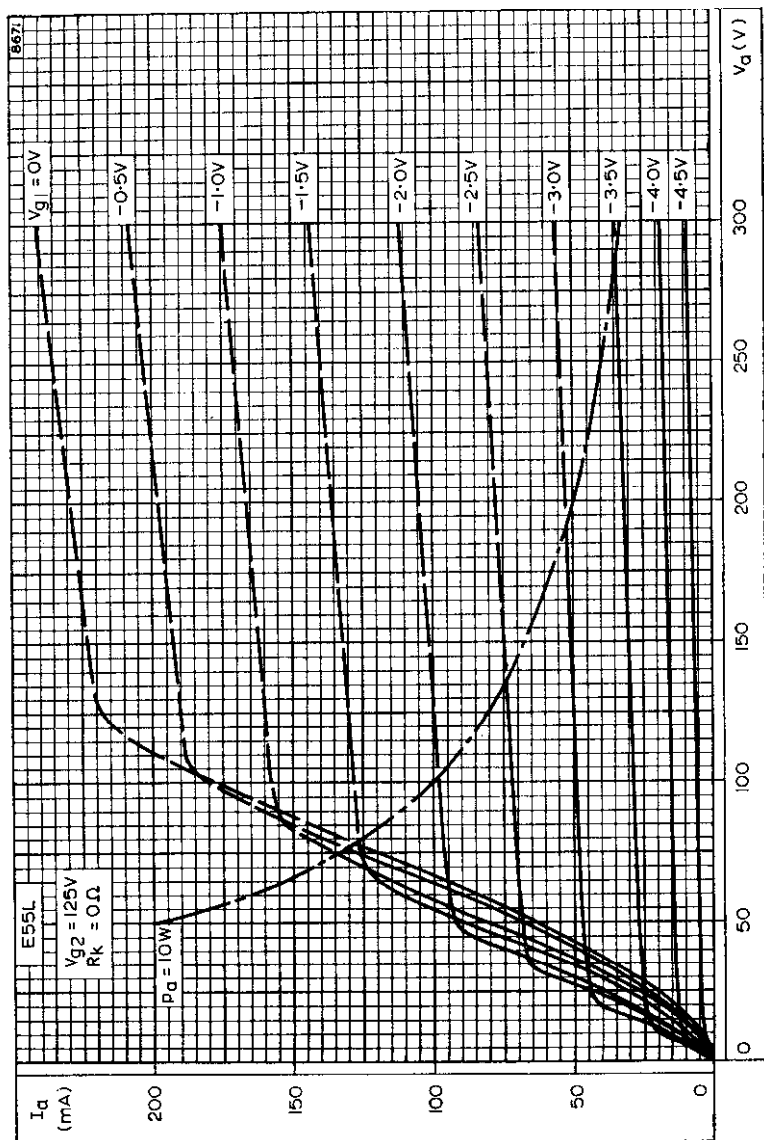
9862

All dimensions in mm

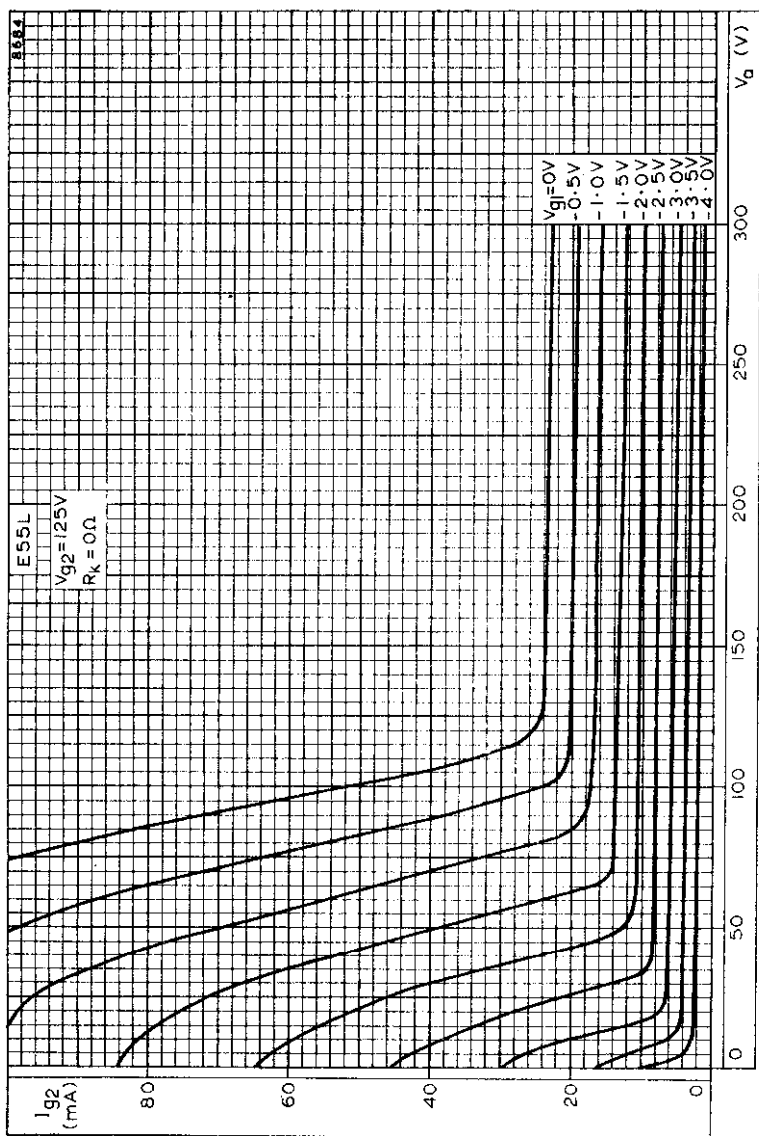




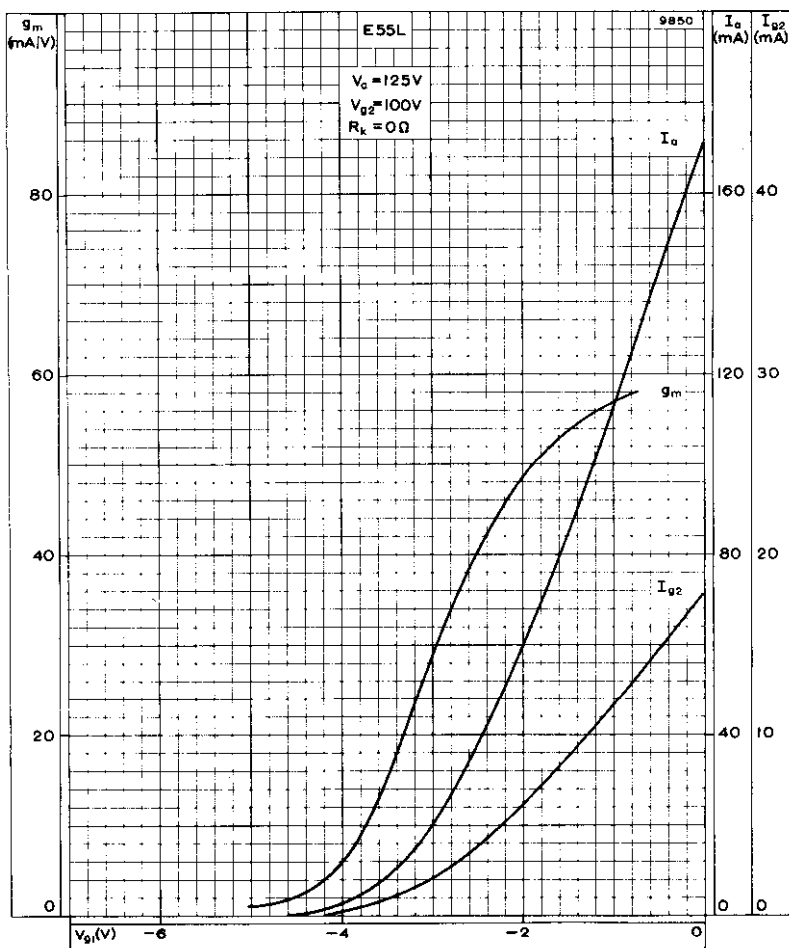
ANODE AND SCREEN-GRID CURRENT AND MUTUAL CONDUCTANCE
PLOTTED AGAINST CONTROL-GRID VOLTAGE. $V_{g2} = 125V$



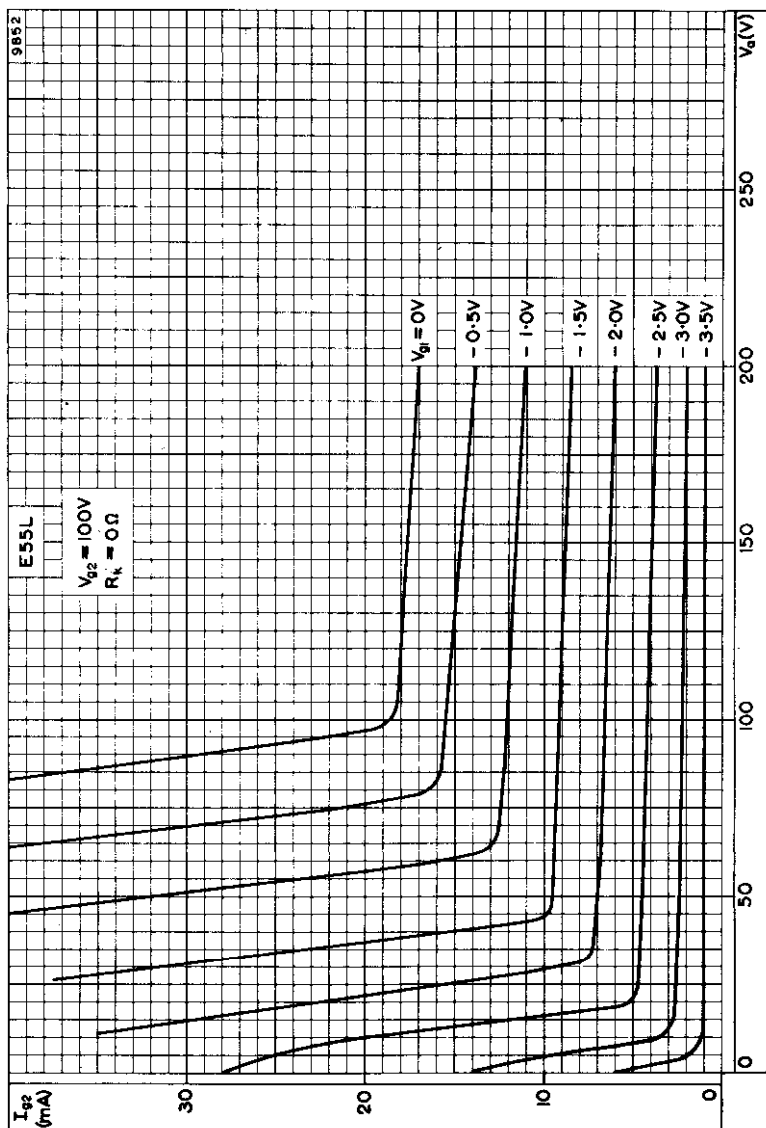
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-
GRID VOLTAGE AS PARAMETER



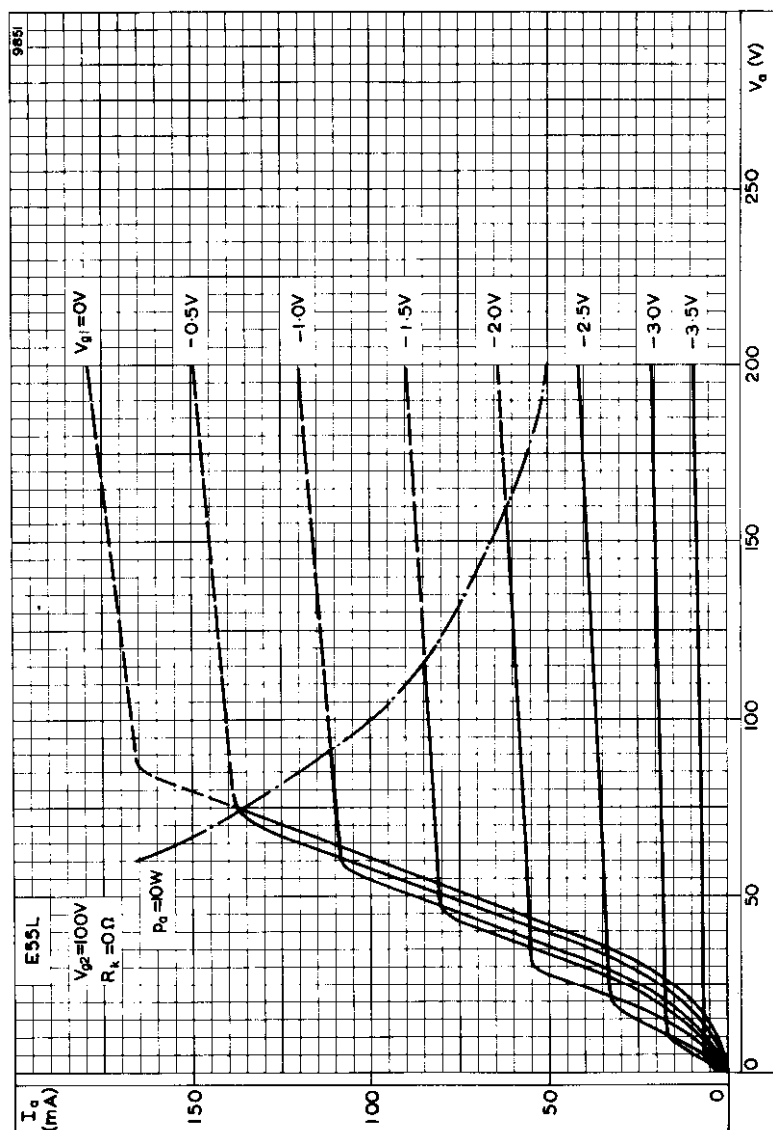
SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH
CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 125V$



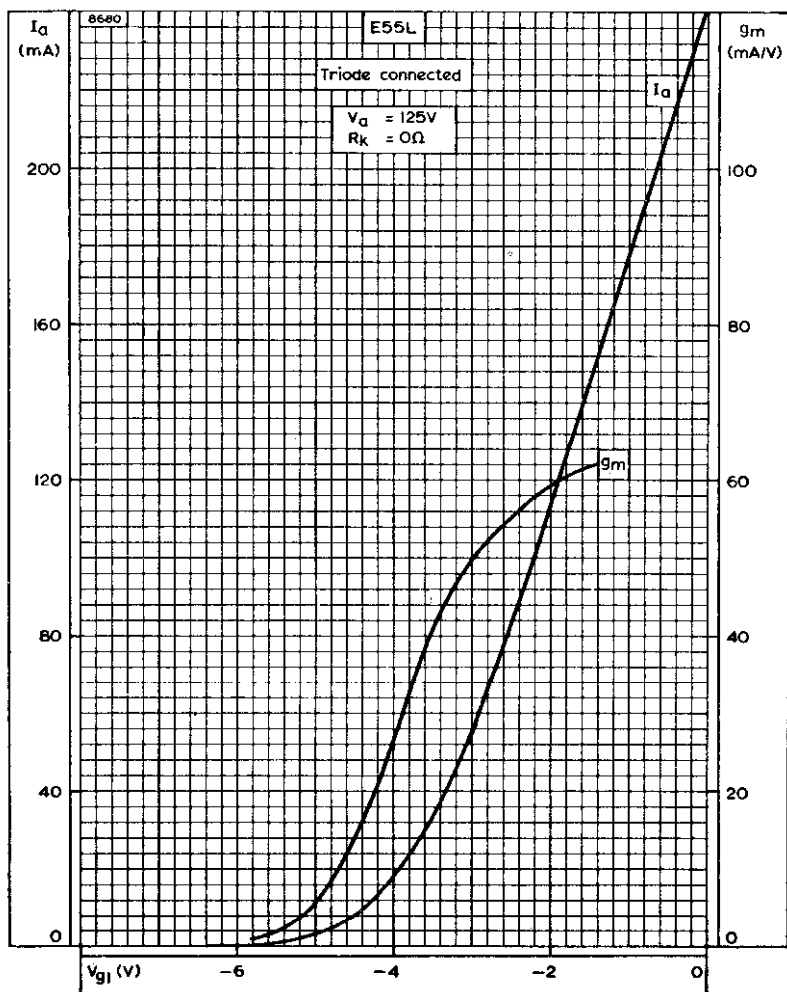
ANODE AND SCREEN-GRID CURRENT AND MUTUAL CONDUCTANCE
 PLOTTED AGAINST CONTROL-GRID VOLTAGE. $V_{g2} = 100V$



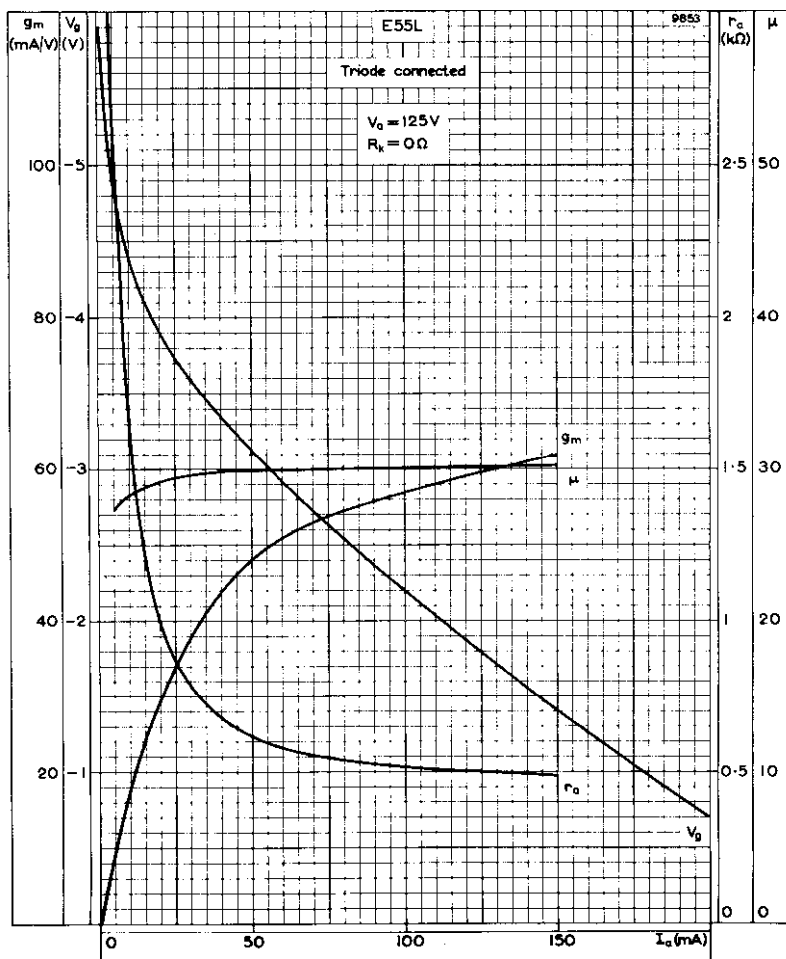
SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH
CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 100V$



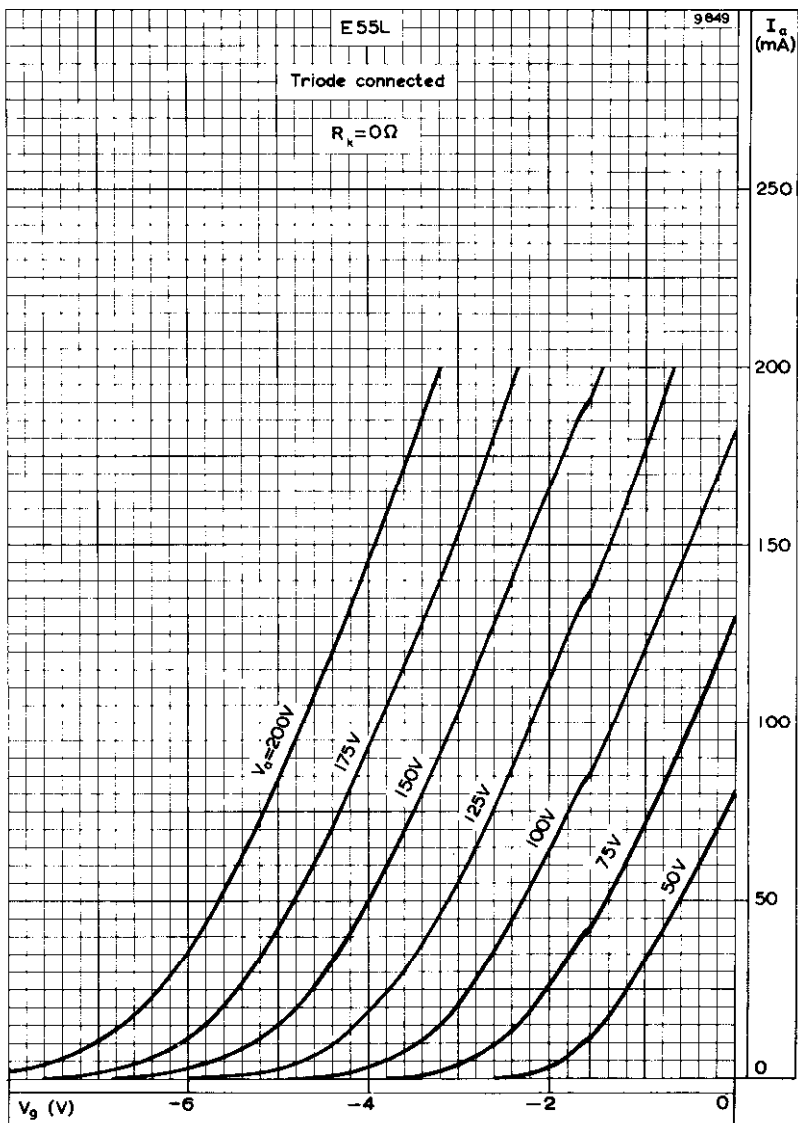
ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-
GRID VOLTAGE AS PARAMETER. $V_{g2} = 100V$



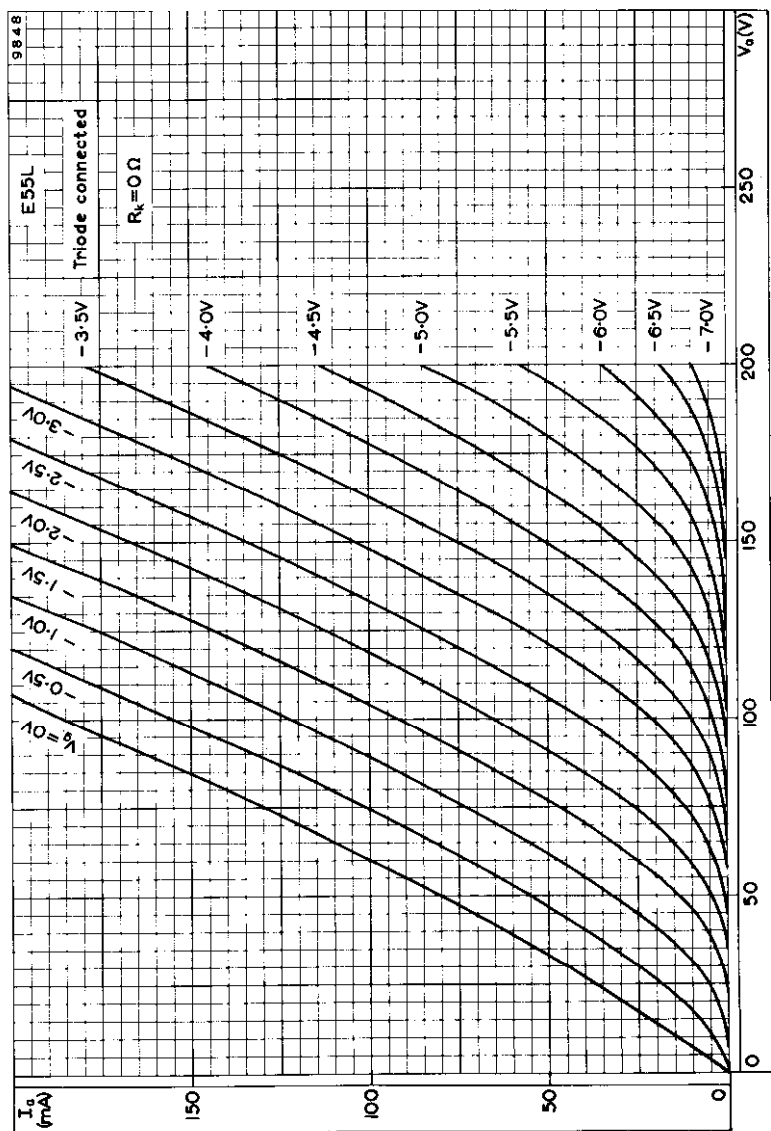
ANODE CURRENT AND MUTUAL CONDUCTANCE PLOTTED AGAINST
CONTROL-GRID VOLTAGE, WHEN TRIODE CONNECTED



ANODE IMPEDANCE, AMPLIFICATION FACTOR, MUTUAL CONDUCTANCE
AND GRID VOLTAGE PLOTTED AGAINST ANODE CURRENT, WHEN
TRIODE CONNECTED



ANODE CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE WITH
ANODE VOLTAGE AS PARAMETER, WHEN TRIODE CONNECTED



ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-
GRID VOLTAGE AS PARAMETER, WHEN TRIODE CONNECTED