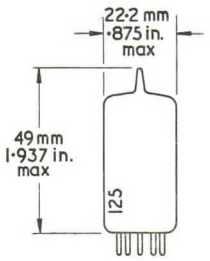
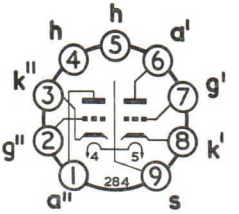


DOUBLE TRIODE



Base B9A

GENERAL

This high slope double triode is primarily intended for use as a V.H.F. cascode low noise amplifier. It may also be used in wide band amplifier applications and high-speed switching circuits.

Heater Voltage	V_h	6·3	V
Heater Current	I_h	0·365	A (nominal)

RATINGS—Each Section

Maximum Anode Dissipation	$P_{a(max)}$	1·8	W
Maximum Anode Supply Voltage	$V_{a(b)max}$	550	V
Maximum Anode Voltage	$V_{a(max)}$	130	V
Maximum Negative Grid Voltage	$-V_{g(max)}$	50	V
Maximum Heater to Cathode Voltage,	$V_{h-k(max)}$		
Heater Negative		150	V
Heater Positive		60	V
Maximum Cathode Current	$I_{k(max)}$	25	mA
Maximum Grid to Cathode Resistance (Fixed Bias)	$R_{g-k(max)}$	1·0	MΩ
Maximum Heater to Cathode Resistance	$R_{h-k(max)}$	20	kΩ

In order not to exceed the maximum permissible anode voltage when the cascode amplifier is controlled, it is necessary to use a voltage divider for the grid of the grounded grid output section (a″, g″, k″). With grid current biasing for the grounded cathode input section (a′, g′, k′), the anode voltage across this section should not be more than 75V in the non-controlled condition.

CHARACTERISTICS—Each Section

Anode Voltage	V_a	90	V
Grid Voltage	V_g	−1·3	V
Anode Current	I_a	15	mA
Mutual Conductance	g_m	12·5	mA/V
Valve Anode Resistance ($\delta v_a/\delta i_a$)	r_a	2·6	kΩ
Amplification Factor	μ	33	
Equivalent Grid Noise Resistance	R_{eq}	300	Ω

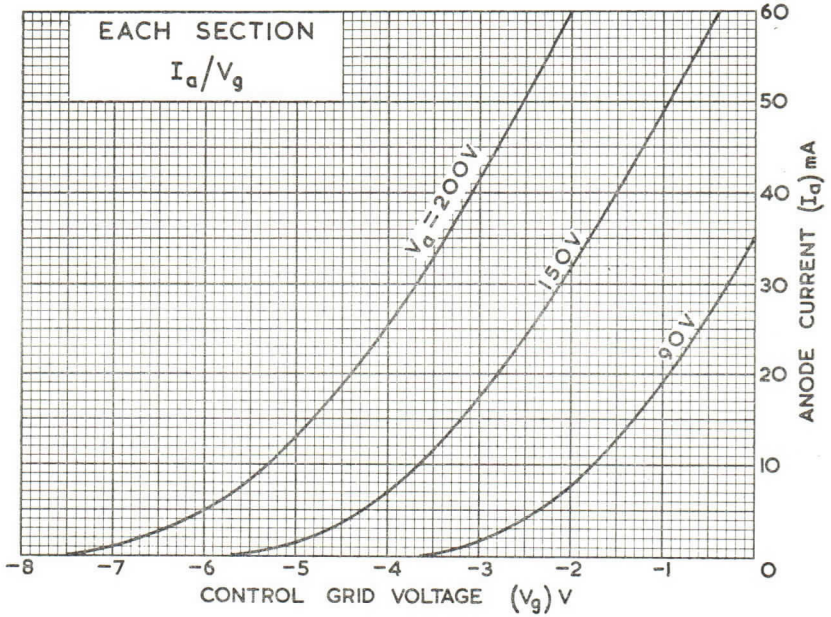
INTER-ELECTRODE CAPACITANCES*

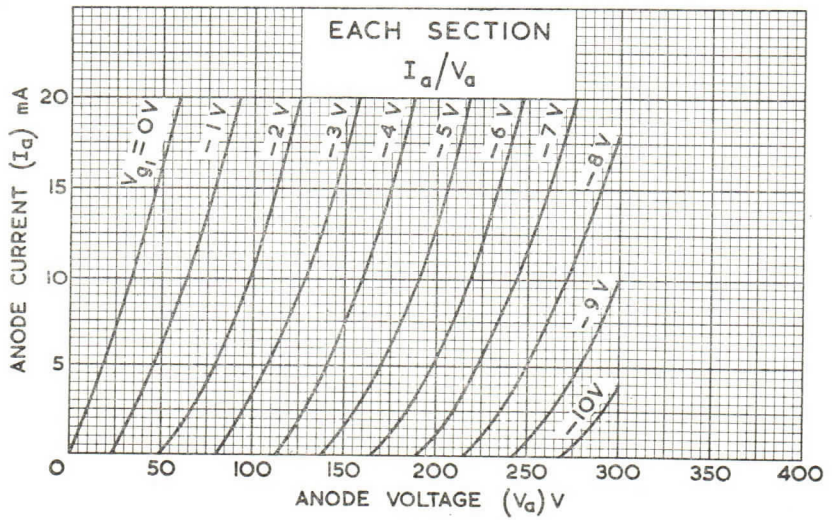
Input (Each section)	c_{in}	3·3	pF
Output (Each section)	c_{out}	1·8	pF
Anode to Grid (Each section)	c_{a-g}	1·4	pF
Anode′ to Anode″	$c_{a'-a''}$	<0·045	pF

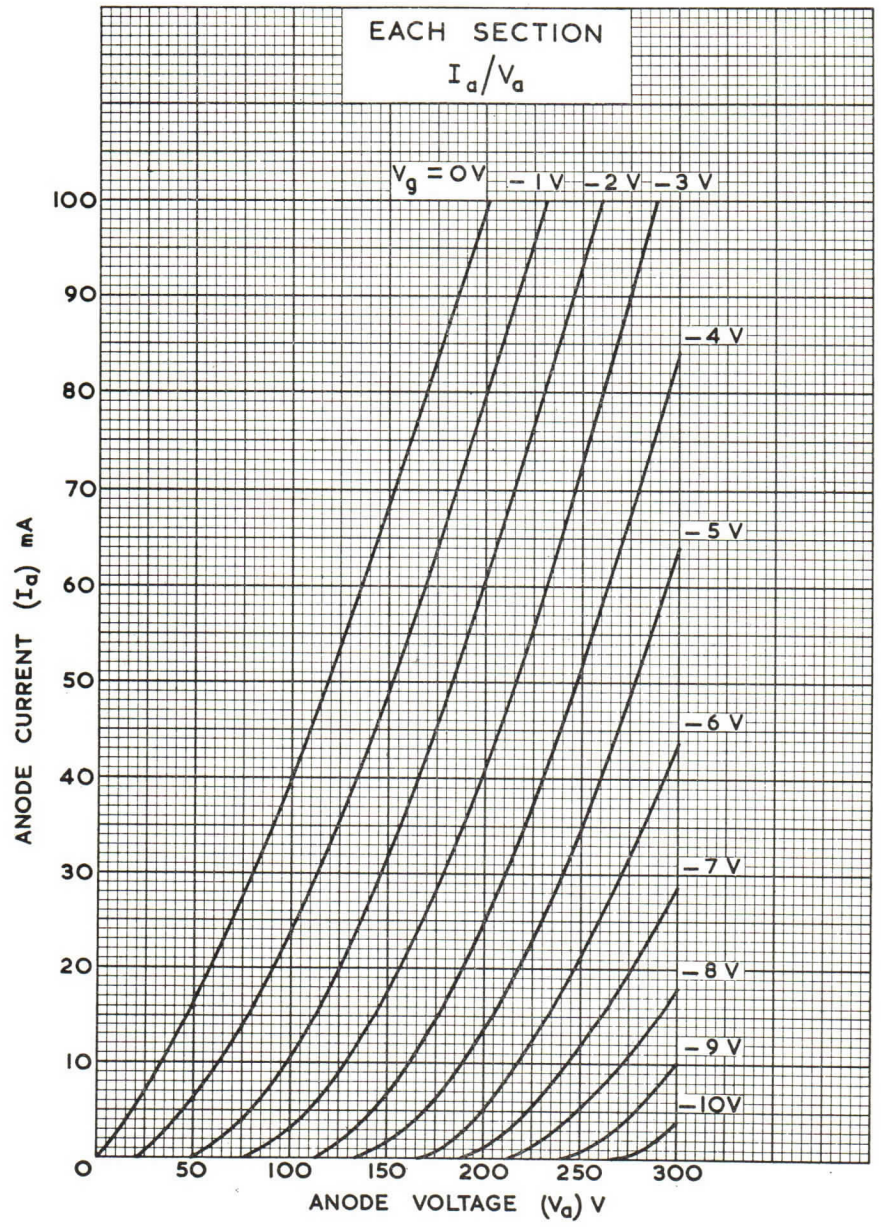
* Measured without an external shield.

MOUNTING POSITION—Unrestricted

THORN — A E I RADIO VALVES & TUBES LTD.


EACH SECTION
I_a/V_g
V_a = 200V
150V
90V
ANODE CURRENT (I_a) mA
0
10
20
30
40
50
60
−8
−7
−6
−5
−4
−3
−2
−1
CONTROL GRID VOLTAGE (V_g) V


EACH SECTION
I_a/V_a
V_g = 0V
−1V
−2V
−3V
−4V
−5V
−6V
−7V
−8V
−9V
−10V
ANODE CURRENT (I_a) mA
0
5
10
15
20
0
50
100
150
200
250
300
350
400
ANODE VOLTAGE (V_a) V


EACH SECTION
I_a/V_a
V_g = 0V
−1V
−2V
−3V
−4V
−5V
−6V
−7V
−8V
−9V
−10V
ANODE CURRENT (I_a) mA
0
10
20
30
40
50
60
70
80
90
100
50
100
150
200
250
300
ANODE VOLTAGE (V_a) V