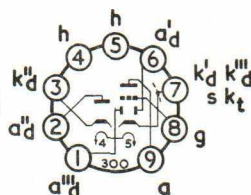


TRIPLE DIODE TRIODE



B9A Base

GENERAL

This triple diode triode is intended for use in FM and AM/FM, AC mains receivers. The first diode is for AM detection with the second and third diodes designed for use as the FM ratio detector. The high μ triode is for audio amplification.

Heater Voltage	V_h	6.3 V
Heater Current	I_h	0.45 A

RATINGS

Maximum Triode Anode Dissipation	$P_a(\text{max})$	1	W
Maximum Triode Anode Voltage	$V_a(\text{max})$	300	V
Maximum Triode Heater to Cathode Voltage (d.c.)	$V_{h-kt}(\text{max})$	150	V
Maximum Peak Inverse Voltage (All diodes)	$PIV(\text{max})$	350	V
Maximum Triode Cathode Current	$I_{kt}(\text{max})$	5	mA
Maximum Anode Current. Diode 1	$I_{a'd}(\text{max})$	1	mA
Maximum Anode Current. Diode 2	$I_{a''d}(\text{max})$	10	mA
Maximum Anode Current. Diode 3	$I_{a'''d}(\text{max})$	10	mA
Ratio Anode Resistance ($\delta V_a / \delta i_a$) Diode 2 to Diode 3		0.65 to 1.5	

INTER-ELECTRODE CAPACITANCES

	$\dagger$	$\ddagger$	$\S$	
Grid to Earth	C_{g-E}	1.9	2.2	3.0 pF
Anode Triode to Earth	C_{a-E}	1.4	1.9	2.6 pF
Anode Triode to Grid	C_{a-g}	2.0	2.1	2.4 pF
Anode Triode to Anode Diode 1	$C_{a-a'd}$	0.08	0.09	0.10 pF
Anode Triode to Anode Diode 3	$C_{a-a'''d}$	0.05	0.11	0.22 pF
Anode Triode to Cathode Diode 2	$C_{a-k''d}$	0.006	0.011	0.016 pF
Grid to Anode Diode 1	$C_{g-a'd}$	0.06	0.07	0.10 pF
Grid to Anode Diode 3	$C_{g-a'''d}$	0.012	0.021	0.035 pF

Inter-electrode Capacitances (continued overleaf)

		†	‡	§	
Grid to Cathode Diode 2	$C_{g-k''d}$	0.0025	0.0044	0.0066	pF
Cathode Diode 2 to All	$C_{k''d-all}$	4.9	5.3	6.4	pF
Anode Diode 3 to All	$C_{a'''d-all}$	5.1	5.6	6.6	pF
Anode Diode 1 to Heater, Cathodes Triode, Diode 1, Diode 3 and Shield	$C_{a'd-h,kt},$ $k'd,k'''d,s$	0.8	1.1	1.7	pF
Anode Diode 2 to Heater, Cathodes Diode 2, Triode, Diode 1, Diode 3 and Shield	$C_{a''d-h,k''d,kt},$ $k'd,k'''d,s$	4.8	5.0	5.4	pF

† In fully shielded socket without can.

‡ With holder capacity balanced out (Holder as below).

§ Total capacity including B9A nylon phenolic holder without skirt or radial shield (AEI holder type VH19/902).

"Earth" denotes the electrodes of any second valve section and the remaining earthy potential electrodes of the section under measurement, heater and shields joined to cathode.

TRIODE CHARACTERISTICS

Anode Voltage	V_a	100	V
Anode Current	I_a	0.8	mA
Grid Voltage	V_g	-1	V
Amplification Factor	μ	70	
Mutual Conductance	g_m	1.45	mA/V
Valve Anode Resistance ($\delta V_a / \delta I_a$)	r_a	48	k Ω

TYPICAL OPERATION AS RESISTANCE COUPLED AMPLIFIER (Grid current bias)

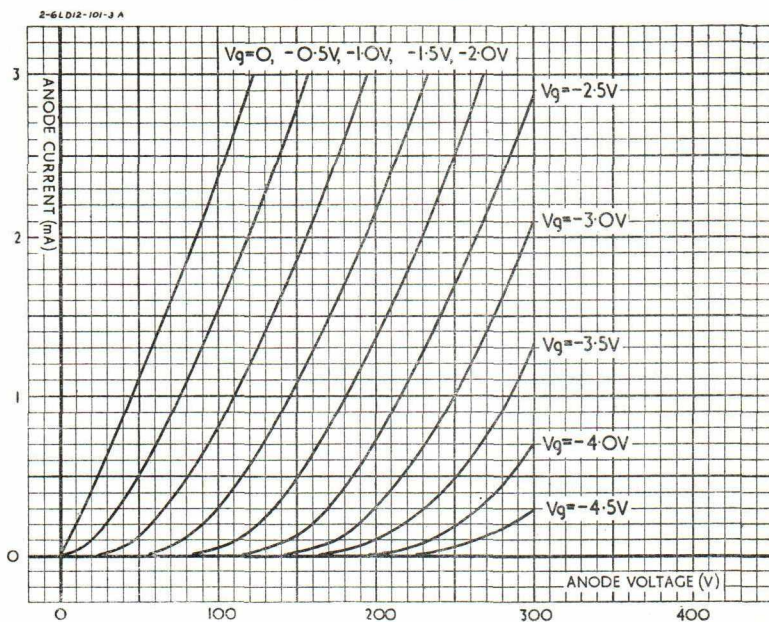
Supply Voltage	V_b	170	170	170	200	200	200	V
Anode Load Resistance	R_a	47	100	220	47	100	220	k Ω
Grid Resistor	R_g	10	10	10	10	10	10	M Ω
Anode Current	I_a	1.25	0.82	0.46	1.6	1.0	0.56	mA
Grid Resistor of Following Valve		150	330	680	150	330	680	k Ω
Voltage Amplification		32	42	51	34	44	53	
Total Distortion	D_{tot}							
for V_{out} (r.m.s.)=3V		0.6	0.5	0.4	0.5	0.4	0.3	%
for V_{out} (r.m.s.)=5V		1.1	0.8	0.5	0.9	0.6	0.4	%
for V_{out} (r.m.s.)=8V		2.0	1.3	1.1	1.5	1.0	0.9	%

MOUNTING POSITION—Unrestricted.

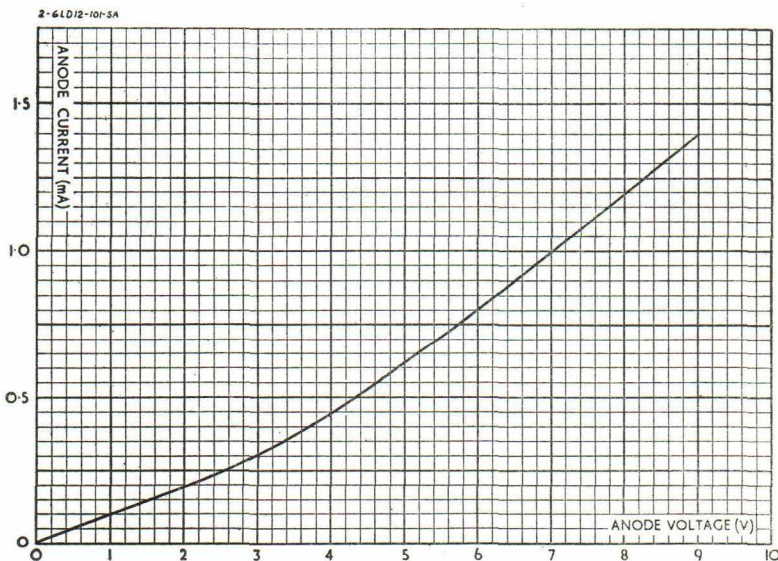
APPROXIMATE WEIGHT

Net	0.5 oz
Packed	0.75 oz

I_a/V_a : Triode Section



I_a/V_a : Diode Section 1



I_a/V_a : Diode Section 2 or 3

