Ediswan Mazda Applications Department

Siemens Edison Swan Limited. Cosmos Works. Brimsdown. Enfield. Middlesex.

SUBJECT 9EN7 — CHIEF ENGINEER'S OFFICE (APPLICATIONS) — DATE: 4th February, 1959. T.D.S. No. 2-V873-0-1D.

VALVE TYPE 9EN7

DIMENSIONS		m.m.
OVERALL LENGTH	MAX.	56
DIAMETER	MAX.	22.2
SEATED HEIGHT	MAX.	49

TYPE	Triode Pentode.
CATHODE	Indirectly Heated.
USE	AC/DC Mains Television Receivers.
	V.H.F. Frequency Changer.

RATING.

	Pentode.	Note.	Triode.	NOTE
Heater Volts	9.0		-	
Heater Current (amps)	0.3		-	
Maximum Anode Volts	250		250	
Maximum Screen Volts	175		-	
Mutual Conductance (mA/V)	8.5	B	5.0	A
Amplification Factor			20	
Maximum Anode Dissipation (Watts)	1.7		1.5	
Maximum Screen Dissipation (Watts)	0.5			
Maximum Cathode Current (mA)	14		14	
Maximum Heater to Cathode Volts (r.m.s.)	200			

American Base E9-1. Bulb T6½

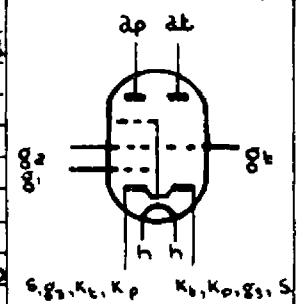
CAPACITANCES pF

ELECTRODES			*	**
g1	TO	all	6.7	7.6
ap	TO	all	5	6
g1	TO	ap	0.014	0.017
	TO			
gt	TO	E	3.2	4
at	TO	E	3.2	4
gt	TO	at	1.6	1.8
	TO			
	TO			
	TO			

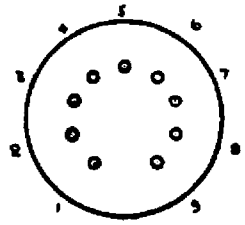
The symbol 'E' denotes the electrodes of any second valve section and the remaining earthy potential electrodes of the section under measurement. H & M joined to cathode unless otherwise stated. Measurement with valve cold.

BASING † 9LM BASE B9A (NOVAL)

PIN	ELECTRODE
1	kp, & pin8
2	g2
3	ap
4	h
5	h
6	at
7	gt
8	kt,g3,s,kp
9	g1



CAP



VIEW OF FREE END.

MOUNTING POSITION: Unrestricted.

TYPICAL OPERATION. TENTATIVE.

As Frequency Changer with Oscillator Volts applied to g1.

Pentode.

Supply Voltage	200
Anode Volts....(Decoupling Resistance =4.7kΩ)	164
Screen Volts...(Rg2 = 27 kΩ)	138
g1 Resistance for Grid Current Bias.....(ohms)	100,000
g1 Current.....(μA)	33
Conversion Conductance.....(μA/V)	3,300
Heterodyne Volts Peak	3.7
Anode Current.....(approx)(mA)	7.6
Screen Current.....(approx)(mA)	2.3

Triode.

Anode Volts	120
Anode Current.....(mA).(average)	6

Notes.

A. Va = 100V. Ia = 14mA. B. Va = 170V. Vg2 = 170V. Ia = 10mA.

† Basing arranged to minimise pentode cathode lead inductance effects.

* Inter-electrode Capacity with holder capacity balanced out but with cylindrical screen can.

** Total capacity including ceramic B9A holder with cylindrical screen. (Plessey holder type CP18002A/3.)

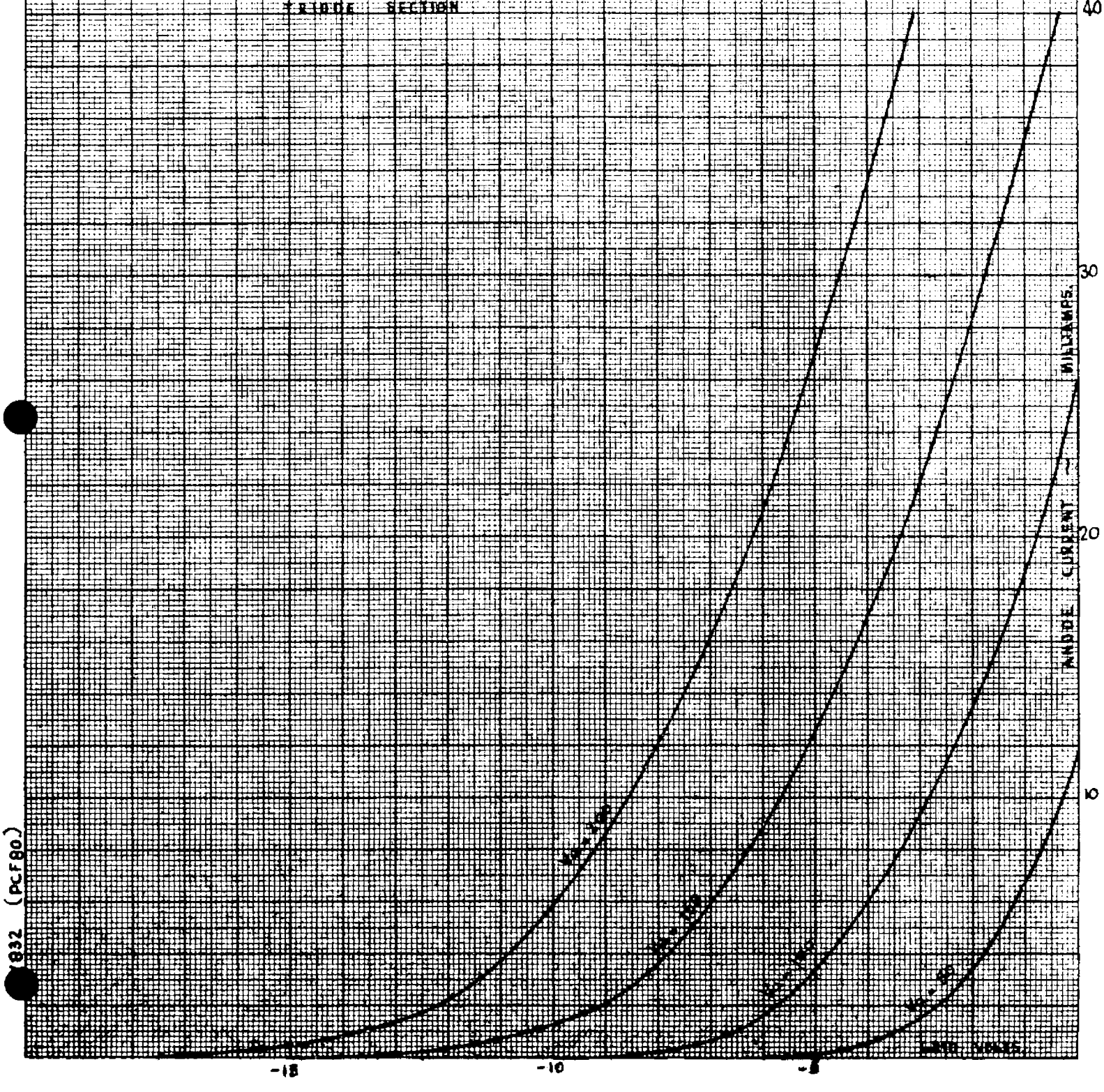
The basing of the 9EN7 is particularly suitable for printed circuit use. The triode is identical to that in the 30C1.

T.D.S. NO.2-30C1-101-9

CHARACTERISTIC CURVES OF AVERAGE MAZDA VALVE TYPE 9EN7

17.2.56.

TRIODE SECTION



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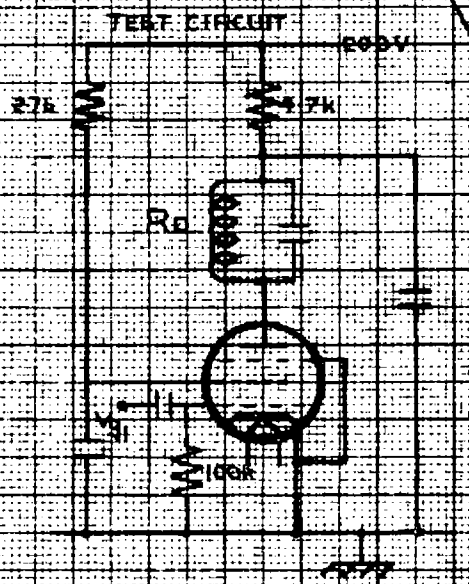
TENTATIVE CHARACTERISTIC CURVES OF EDISWAN MAZDA VALVE TYPE 9EN7

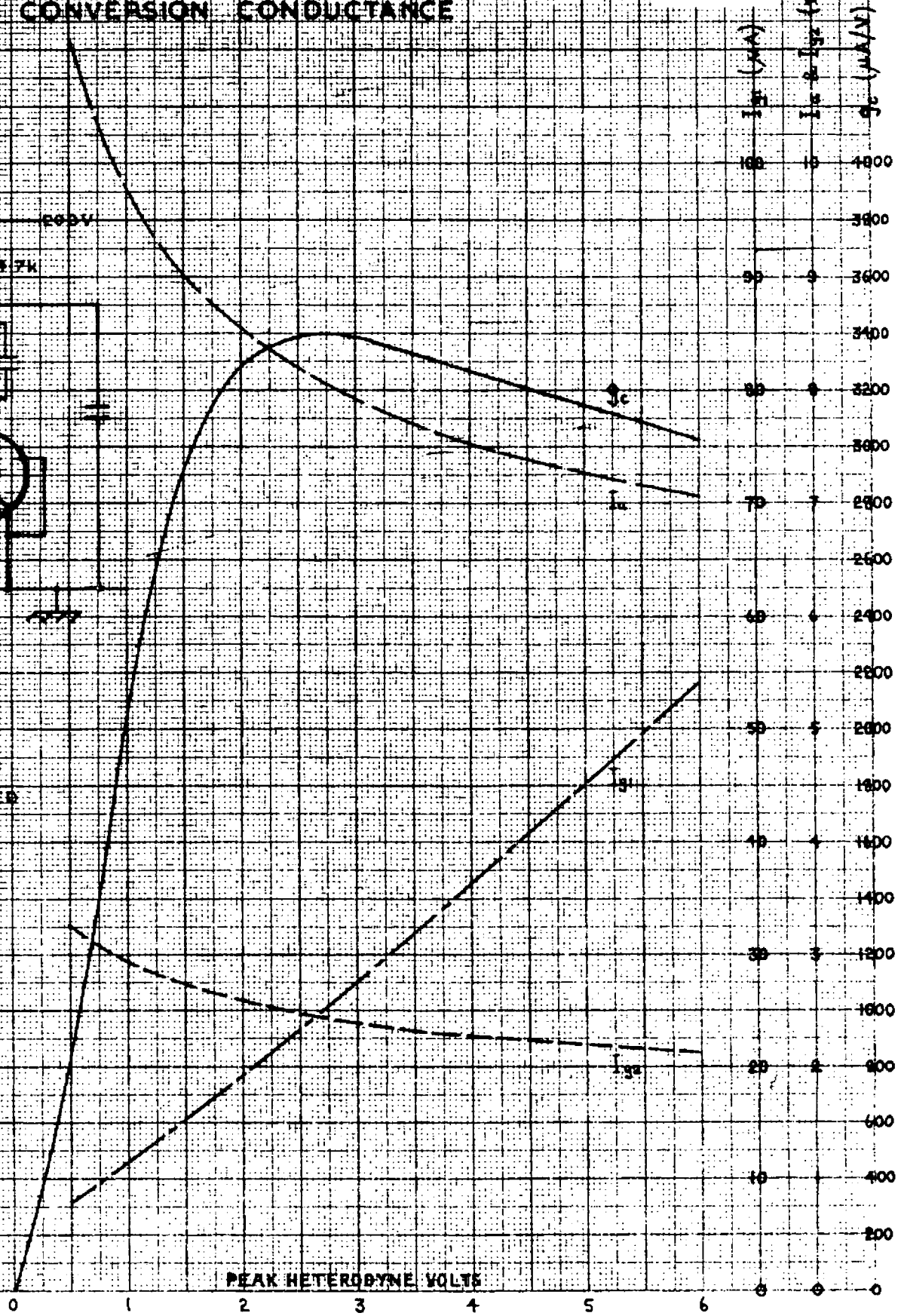
CONVERSION CONDUCTANCE



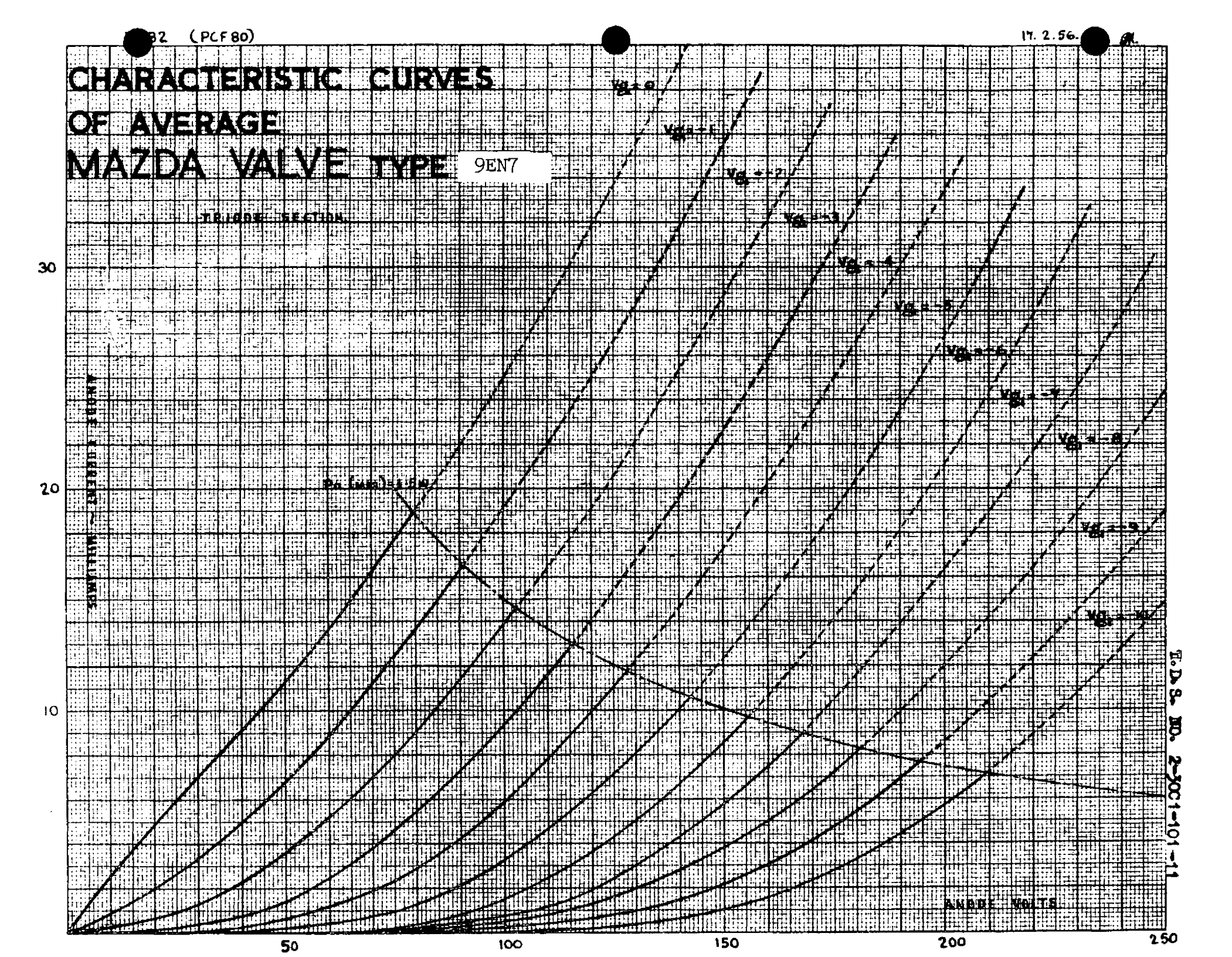
V_b	R_a	R_{g2}	R_{g1}
200	4·7k	27k	100k

R_b	I_h	F	C_{g1}
10·5k	0·3A	1MC/S	0·02pF

HETERODYNE INJECTED
I_{N1}



V873


(PCF80)
17. 2. 56.
CHARACTERISTIC CURVES
OF AVERAGE
MAZDA VALVE TYPE 9EN7
TRIODE SECTION.
ANODE CURRENT - MILLIAMPS
ANODE VOLTS
30
20
10
50
100
150
200
250
E.D.S. NO. 2-3001-101-11