ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

VALVE ELECTRONIC

CV 2397

Specification AD/CV2397 Issue No. 2A dated 1st. October 1963. To be read in conjunction with K1001	SECURITY Specification: Unclassified Valve: Unclassified

→ Indicates a change

TYPE OF VALVE:- Disc Seal Triode CATHODE:- Indirectly Heated ENVELOPE:- Metal and Glass PROTOTYPE:- VX3263	MARKING See K1001/4 DIMENSIONS See drawing on page 3

RATINGS

(All limiting values are absolute)

		Note
Heater Voltage (V)	6.3	
Heater Current (A)	0.5	
Max. Pulse Anode Voltage (V)	1000	
Max. CW Anode Voltage (V)	400	
Max. Mean Anode Dissipation (W)	10	A
Max. Mean Anode Current (mA)	40	
Amplification Factor	65	B
Mutual Conductance	(See Page 5)	

CAPACITANCES (pF)

$C_{a,g}$	1.2	C
$C_{a,k}$	0.03	C
$C_{g,k}$	3.6	C
$C_{g,k}$ (hot)	4.4	B

TYPICAL PERFORMANCE

OSCILLATOR		Note
Peak Power Output at 5200 Mc/s (mW)	250 (50 mW Min.)	D
CW Power Output at 4000 Mc/s (W)	1.5 to 2.0	E
CW Power Output at 2300 Mc/s (W)	3.0 to 3.5	E
Amplifier with less than 10 mW drive		
Gain at 4000 Mc/s (dB)	11 to 14	E, F
Noise Factor at 4000 Mc/s (dB)	16 to 18	E
Gain at 2300 Mc/s (dB)	13 to 15	E, F
Noise Factor at 2300 Mc/s (dB)	11 to 13	E
Amplifier with 1-2W drive		
Output at 4000 Mc/s (W)	1 to 1.5	E, F
Output at 2300 Mc/s (W)	3 to 3.5	E, F

NOTES

A. The electrodes must be cooled by conduction and the temperature of any glass to metal seal must not exceed 140°C.

B. With Va = 200V; Ia = 10 mA.

C. Measured with the valve cold.

D. Operating in the circuit and with the modulator incorporated in Admiralty Test Set A.P.63369, Design 19.

E. The d.c. input is 250V, 40 mA.

F. Measured at 50 Mc/s bandwidth.

CV2397

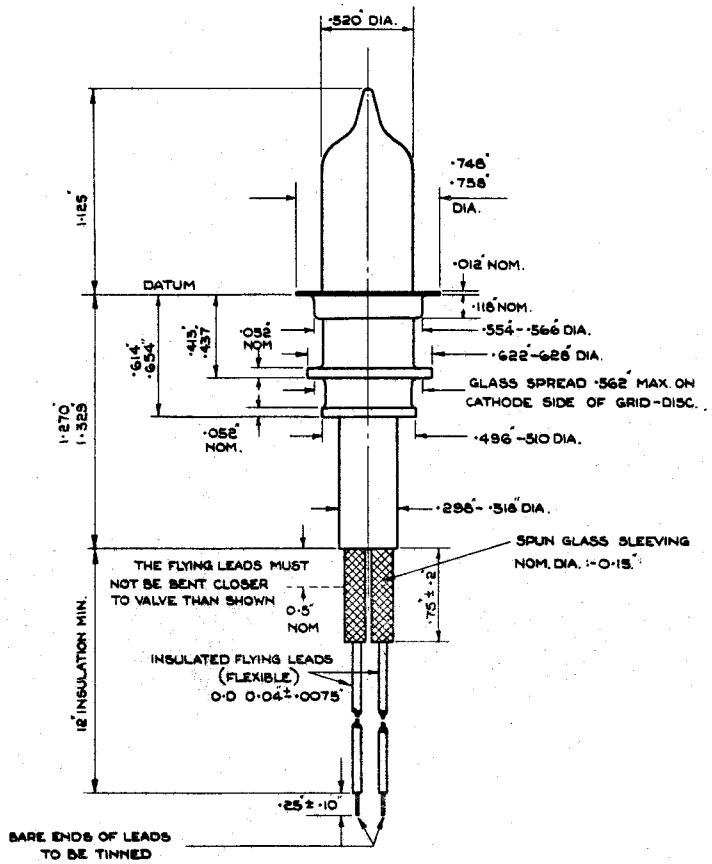
TESTS

To be performed in addition to those applicable in K1001 and after a holding period of 28 days.

	Test Conditions				Test	Limits		No. Tested	Note
	Vh (V)	Va (V)	Vg (V)	Ia (mA)		Min.	Max.		
a	Measurements shall be made at a frequency of 1.0 Mc/s.				Capacitance (pF) $^{e}a,g$ $^{e}a,k$ $^{e}g,k$	 1.0 - 3.1	 1.4 0.03 4.1	AQL 6.5 Inspection Level 1	1
b	6.3	0	0	0	Ih (A)	0.48	0.53	100%	
c	6.3	200	Adjust	10	Reverse Ig (/uA)	-	0.5	100%	
d	6.3	Adjust	-0.4	15	gm (mA/V)	12.0	-	100%	2
e	6.3	200	Adjust	1.0	Negative Vg (V)	-	7.0	100%	
f	6.3	200	Adjust	10	Negative Vg (V)	0.5	3.5	100%	
g	6.3 - - - The valve shall be tested in the circuit and with the modulater used in Admiralty Test Set A.P.63369, Design 19. Adjust for maximum output.				Peak Power Output (mW)	50.0	-	T.A.	
h	As in test (g)				Frequency (Mc/s)	5050	5350	T.A.	
j	As in test (g)				Life (hrs.)	500	-	T.A.	3

NOTES

1. Measured with the valve cold.
2. Measured in a bridge at a frequency of 1 Mc/s nominal, and with special capacitance jig, drawings for which may be obtained from the Specification Authorities.
3. The valve shall be deemed to have reached the end of life when one or both of the following conditions apply:-
   (1) The peak power output as measured in test (g) is less than 40 mW.
   (2) The frequency as measured in test (h) lies outside the range 5040 - 5360 Mc/s.



OUTLINE DRAWING

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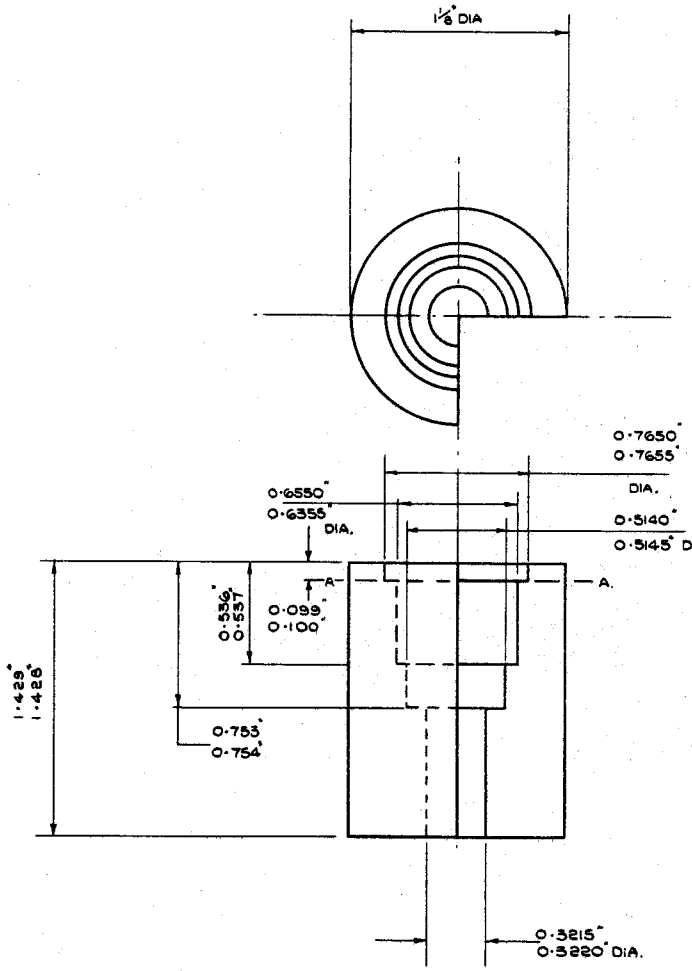
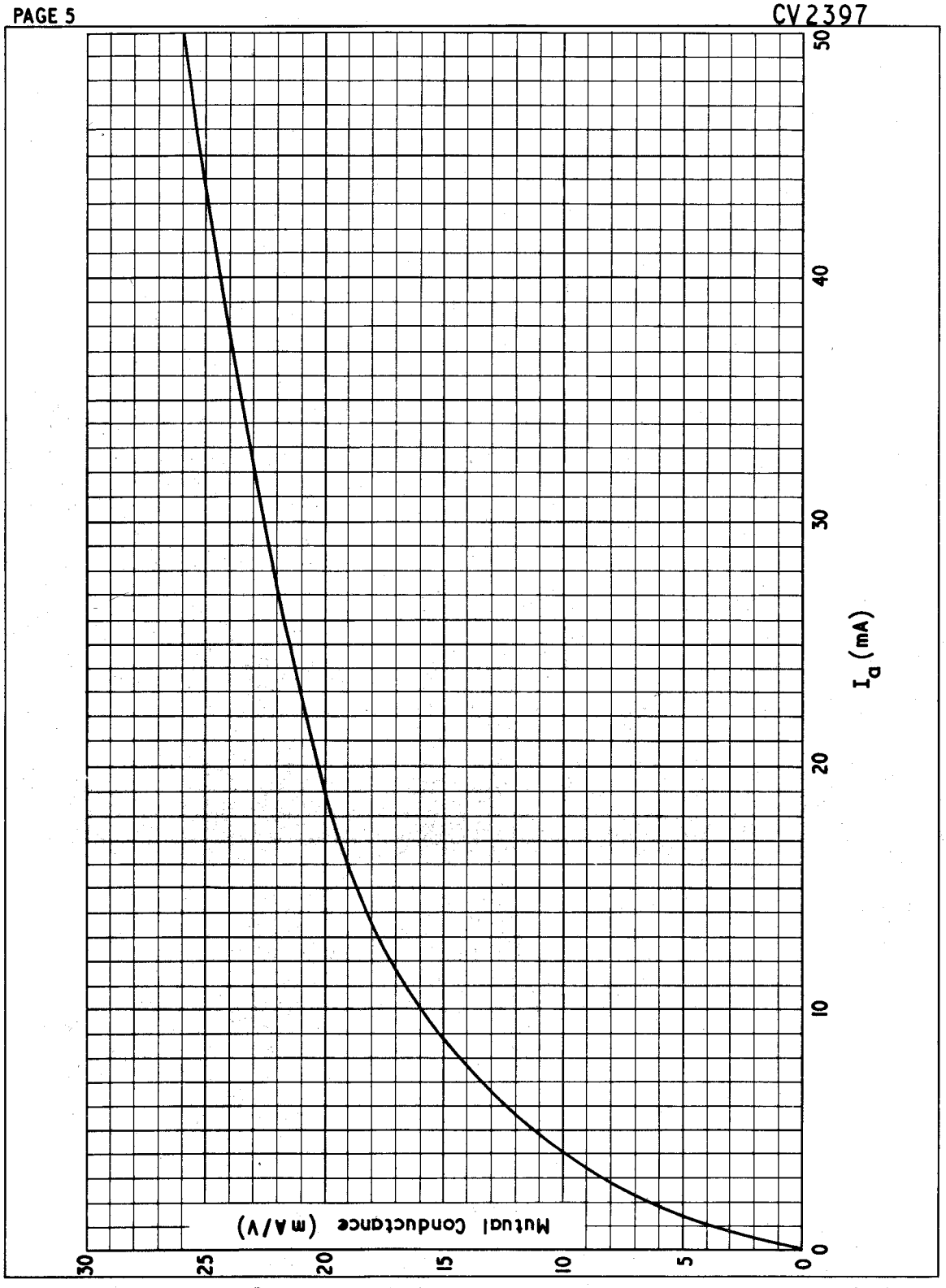


CV 2397/2A/4 **OVERALL CHECKING GAUGE**



MUTUAL CONDUCTANCE

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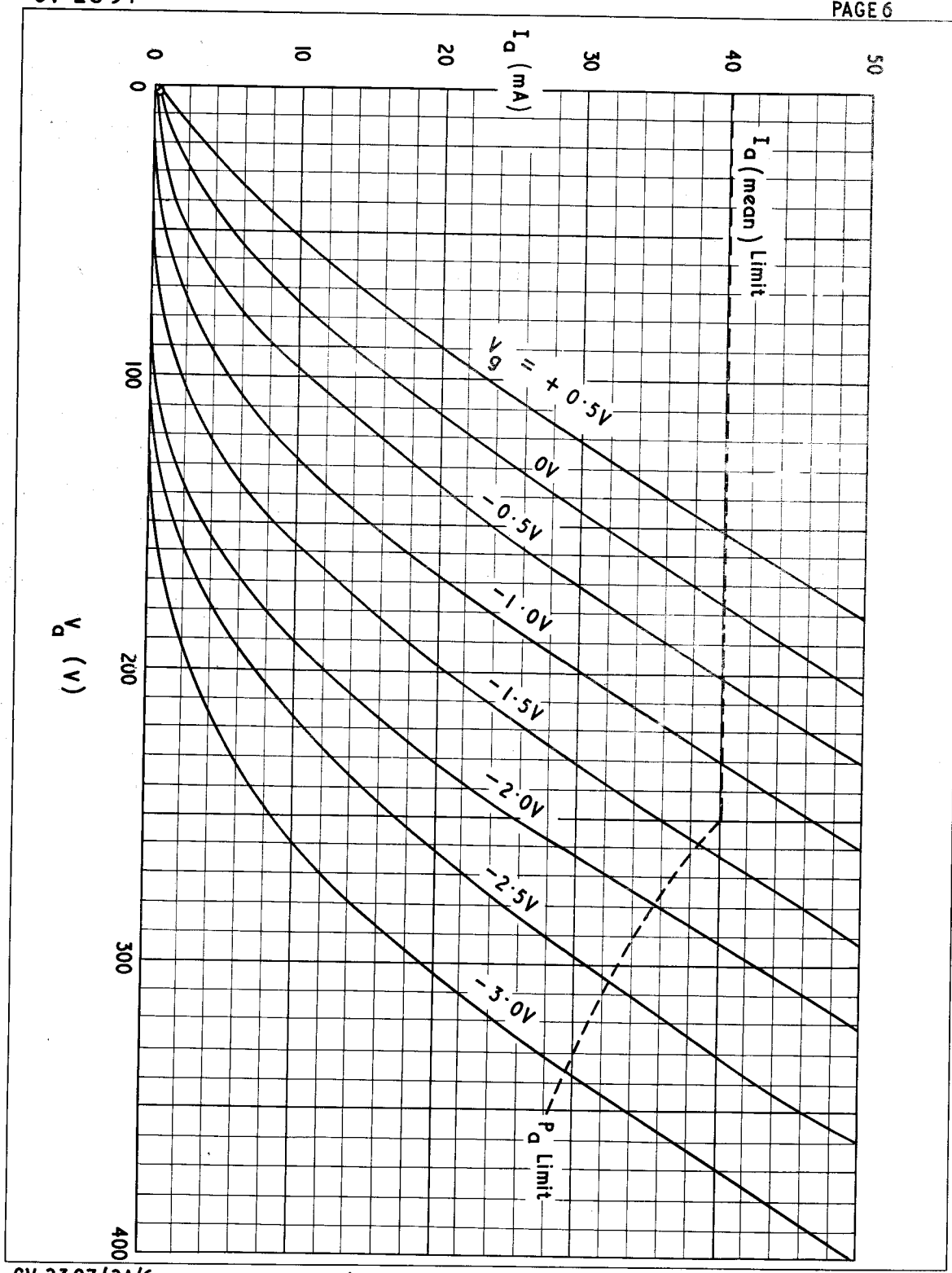

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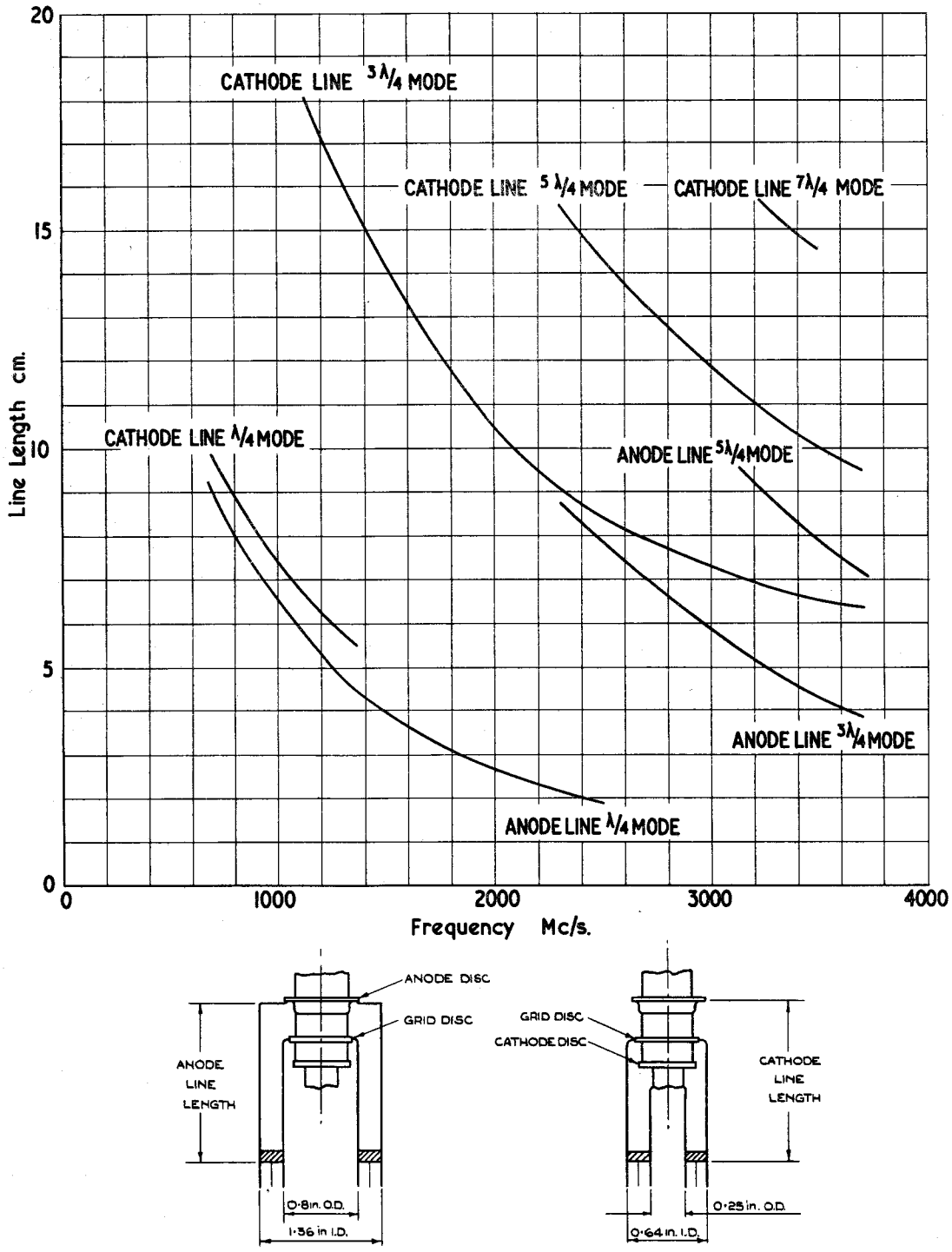
ANODE CHARACTERISTICS



LINE LENGTH CURVES FOR TUNABLE SELF-OSCILLATOR CV 2397/2A/7