MINISTRY OF SUPPLY (DCD)

VALVE ELECTRONIC **CV1056**

Specification MAP/CV1056/Issue 9
Dated 2.10.46.
To be read in conjunction with K.1001

SECURITY	
Specification	Valve
RESTRICTED	RESTRICTED

→ Indicates a change

TYPE OF VALVE - H.F. Pentode
CATHODE - Indirectly heated
ENVELOPE - Glass, metallised
PROTOTYPE - EF36

MARKING
See K.1001/4

RATING			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	0.2	
Max. Anode Voltage	(V)	300	
Max. Screen Voltage	(V)	125	
Max. Anode Dissipation	(W)	1.0	
Max. Screen Dissipation	(W)	0.3	
Mutual Conductance	(mA/V)	1.8	A
Anode Impedance	(MΩ)	2.5	A
Amplification Factor		4,500	A
Max. Operating Frequency	(Mc/s)	125	

CAPACITANCES (pF)	
Cae	8.2
Cge	5.5
Cg1-g2	2.25
Cag (max)	0.003

BASE
I.O.
See K.1001/AIV/D2

Pin	Electrode
1	Metallising
2	Heater
3	Anode
4	Screen grid
5	Suppressor grid
6	No connection
7	Heater
8	Cathode
TC	Control grid

TOP CAP
See K.1001/AI/D5.2

DIMENSIONS
See K.1001/AI/D1

Dimension		Min.	Max.
A	(mm)	95	100
B	(mm)	-	32
C	(mm)	-	30

NOTE

A. Va = 250 V., Vg2 = 100 V.,
Vg1 = -2 V., Ia = 3.0 mA.

To be performed in addition to those applicable in K.1001.

	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested
	See K.1001/AIII					Capacitances (pF)			
	Links to H.P.		Links to L.P.		Links to E.				
a	3		1,2,4,5, 7,8.		6,9,10, TC1,TC2	Cae	7.0	9.4	6 per week
	TC1		1,2,4,5, 7,8.		3,6,9, 10, TC2	Cge	4.7	6.3	
	4		TC1		1,2,3,5, 6,7,8,9, 10, TC2.	Cg2-g1	2.0	2.5	
	3		TC1		1,2,4,5, 6,7,8,9, 10, TC2.	Cag	-	0.003	T.A.
	Vh	Va	Vg2	Vg3	Ia(mA)				
b	6.3	0	0	0	0	Ih (A)	0.18	0.22	100% or S
c	6.3	250	100	0	3.0	Vg1 (V)	-1.5	-2.5	100%
d	6.3	250	100	0	3.0	Ig2 (mA)	0.7	1.1	100% or S
e	6.3	250	100	0	3.0	gm (mA/V)	1.5	-	100%
	Peak grid swing ±0.5V. max.								
f	6.3	250	100	0	3.0	Reverse Ig1 (μA)	-	0.5	100%

CV1056

Operating Conditions as H.F. and I.F. Amplifier

Va	100	200	250 V
Vg2	100	100	100 V
Ia	3	3	3 mA
-Vg1	2	2	2 V
Ig2 (Ia = 3 mA)	0.8	0.6	0.6 mA
g	1,800	3,600	4,500
S (Ia = 3 mA)	1.8	1.8	1.8 mA/V
Ri (Ia = 3 mA)	1.0	2.0	2.5 MΩ

Limiting Values

Vao max		550 V
Va max		300 V
Wa max		1 W
Ik max		8 mA
Vg20 max		550 V
Vg2 max		125 V
Wg2 max		0.3 W
Vgl max	(Igl = 0.3 mA)	-0.6 V
Ig2 max		1.4 mA
Ig2 min		0.8 mA
Rglx max		3 MΩ ←
Rglf max		1 MΩ
Vfk max		100 V.DC ←
Rfk		20,000 Ω

Operating Conditions connected as Triode.

(g2 connected to a, g3 connected to k)

Va	150	V
-Vgl	3	V
Ia	6	mA
g	28	
S	2.8	mA/V
Ri	10,000	ohms

Operation as resistance coupled low frequency amplifier (pentode connection).

Vb (V)	Ra (MΩ)	Ia (mA)	Rg2 (MΩ)	Ig2 (mA)	Rk (ohms)	Vo VI	With EL2 as Output Valve Va=Vg2=250V. Vo V.RMS	With EL2 as Output Valve Va=Vg2=250V. d%
300	0.5	0.7	0.8	0.25	4000	175	11.2	1.4
250	0.3	0.6	0.8	0.2	4000	165	11.2	2.2
300	0.2	1.1	0.4	0.4	3000	150	11.2	1.0
250	0.2	0.9	0.4	0.35	3000	140	11.2	1.8
300	0.1	1.9	0.25	0.65	1800	115	11.2	1.0
250	0.1	1.6	0.25	0.50	1800	110	11.2	1.0

Figures given under the headings "Output Voltages" and "Total Distortion" are for full modulation of the Output Valve.

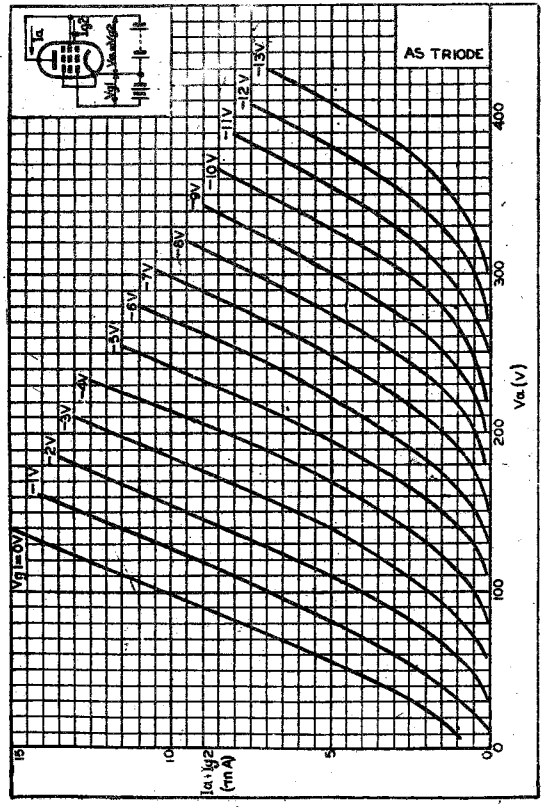
Ia and Ig2 measured with no signal.

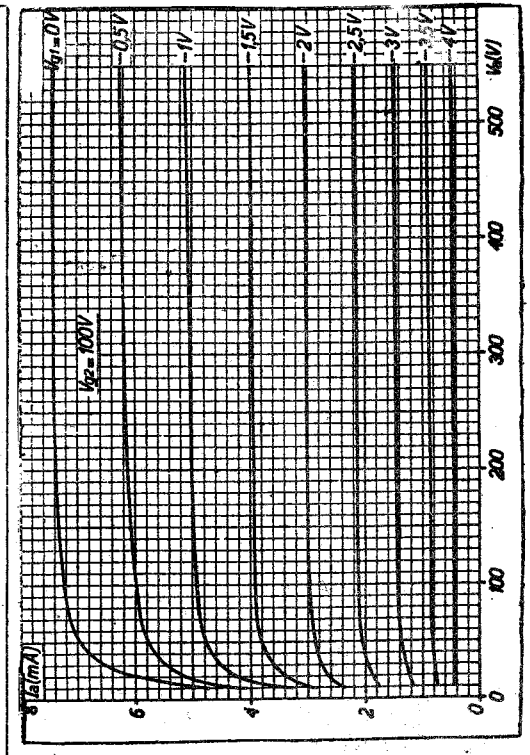
Rglx (resistance of the following output valve) = 0.7 MΩ;

Ck = 50 uF.

SOURCE : Mullard catalogue sheets for EF6. Mullard abbreviations are used.

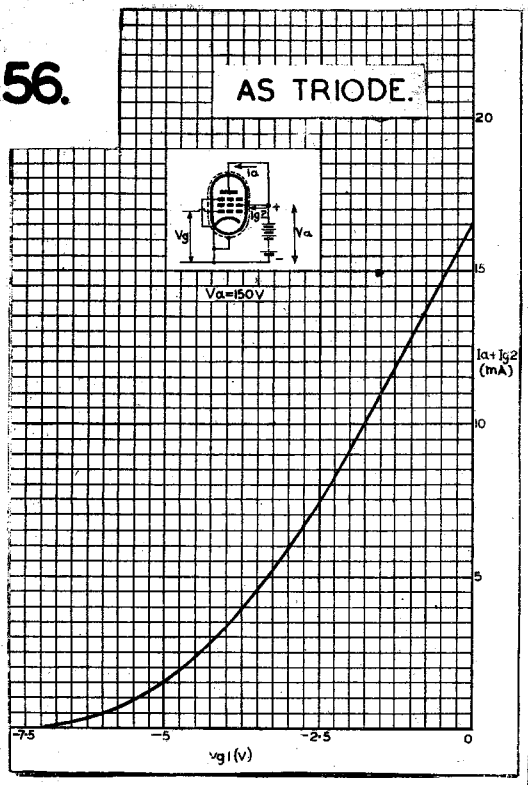
EL2 in the table above is VT52.

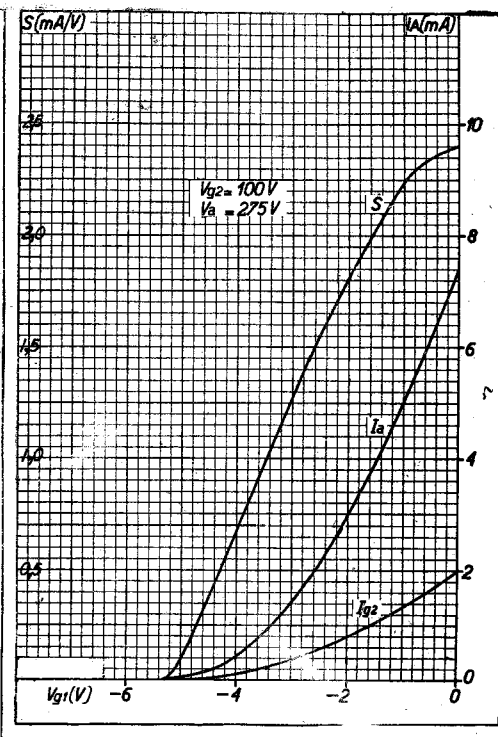


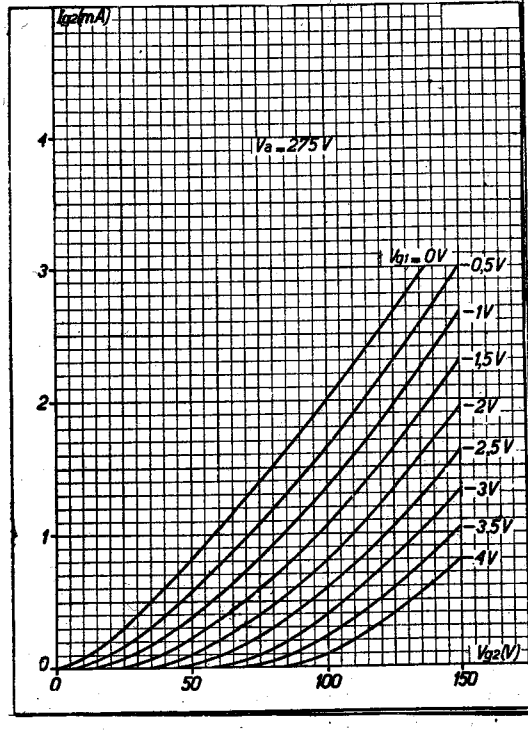


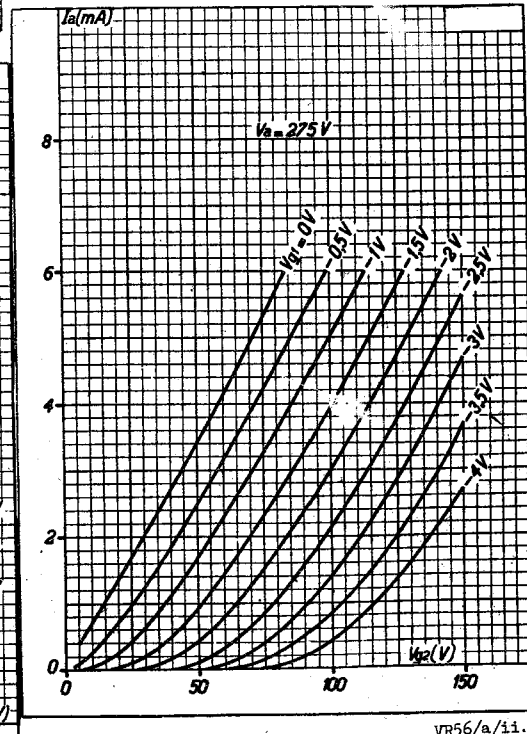
VR56/a/i.

VR56.


AS TRIODE.
Ia
Ig2
Vg
Va
Va=150V
Ia+Ig2 (mA)
Vg1(V)
-7.5
-5
-2.5
0
5
10
15
20


S(mA/V)
Ia(mA)
Vg2= 100V
Va = 275V
S
Ia
Ig2
Vg1(V)
-6
-4
-2
0
0.5
1.0
1.5
2.0
2.5
2
4
6
8
10


Ig2(mA)
Va = 275V
Vg1 = 0V
-0,5V
-1V
-1,5V
-2V
-2,5V
-3V
-3,5V
-4V
Vg2(V)
0
50
100
150
1
2
3
4


Ia(mA)
Va = 275V
Vg1 = 0V
-0,5V
-1V
-1,5V
-2V
-2,5V
-3V
-3,5V
-4V
Vg2(V)
0
50
100
150
2
4
6
8