

MINISTRY OF SUPPLY (D.C.D.)

Specification MAP/ CV454

Issue 3 Dated 4.6.54

To be read in conjunction with K1001

SECURITY

Specification

Valve

UNCLASSIFIED

UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Var.v RF Pentode
 CATHODE - Indirectly Heated
 ENVELOPE - Glass, unmetallised
 PROTOTYPE - 6BA6

MARKING

See K1001/4

RATING

Note

Heater Voltage	(V)	6.3	
Heater Current	(A)	0.3	
Max. Anode Voltage	(V)	330	C
Max. Screen Grid Voltage	(V)	135	C
Max. Screen Grid Supply Voltage	(V)	330	C
Max. Anode Dissipation	(W)	3.3	C
Max. Screen Grid Dissipation	(W)	0.7	C
Mutual Conductance	(mA/V)	4.4	A
Anode Impedance	(Megohms)	1.5	A
Max. Mutual Conductance at Vg1 = - 20V	(μA/V)	100	

BASE

B7G

CONNECTIONS

Pin

Electrode

1	G1
2	G3
3	H
4	H
5	A
6	G2
7	C

Capacitances (pF)

Cg1 - a (max.)	.0035	B
Cg1 - c	5.5	B
Ca - c	5.0	B

DIMENSIONS

See K1001/AI/D4

Dimension

Min.

Max.

A mm

-

54.01

B mm

-

19.05

L mm

-

47.75

F mm

34.04

42.16

NOTES

A. Measured at: Va = 250V; Vg2 = 100V; Vg3 = 0;
 Rc = 68 ohms; Ia = 11 mA; Ig2 = 4.2mA.

B. Measured with close fitting metal screen

C. Absolute maximum values.

TESTS

To be performed in addition to those applicable in K1001

Test Conditions							Test	Limits		No. Tested	Note
								Min.	Max.		
a	See K1001/ATII Measurement to be made in Adaptor Type 124, Ref.No.10AD/9						<u>CAPACITANCES (pF)</u>				
	Links to H.P.	Links to L.P.	Links to E.				Cg1a		.0035	T.A.	
	1	5	2,3,4,6,7,8,9,10 TC.1 TC.2				Cg1e	4.4	6.4	6 per week	1
	5	2,3,4,6,7,8,9.	1,10,TC.1 TC.2				Cae	3.5	6.5		
	Vh (V)	Va (V)	Vg2 (V)	Vg3 (V)	Ro (ohms)	Vg1 (V)					
b	6.3	0	0	0	-	0	Ih (A)	.275	.325	100% or S	
c	6.3	250	100	0	68	-	Ia (mA)	8.5	13.5	100%	
d	6.3	250	100	0	68	-	Ig2 (mA)	2.8	5.6	100% or S	
e	6.3	250	100	0		-1.5	Reverse Ig1 (μA)	-	1.0	100%	
f	6.3	250	100	0	68	-	gm (mA/V)	3.6	5.2	100%	2
g	6.3	250	100	0		-20	gm (μA/V)	5	100	100% or S	
h	6.3	20	20	20	0	20	Emission (mA)	60	-	100%	

NOTE

1. Measured with a close fitting metal screen.
2. Cathode resistor to be by-passed by 1000 μF condenser.
3. Reference point for all potentials except heater and suppressor shall be the negative terminal of the cathode resistor.

DATA SHEET

Valve Electronic Type CV 454

TYPICAL OPERATING CONDITIONS

As Class A Amplifier

Anode Voltage	100	250	250	Volts
Screen (g_2) Voltage	100	100	-	Volts
Screen Supply Voltage	-	-	250	Volts
Screen Series Resistor	-	-	33,000	Ohms
Grid (g_1) Voltage	-1.0	-1.0	-1.0	Volts
Cathode Bias Resistor	68	68	68	Ohms
Anode Current	10.8	11.0	11.0	mA
Screen (g_2) Current	4.4	4.2	4.2	mA
Anode Impedance	0.25	1.5	1.5	Megohms
Mutual Conductance	4.3	4.4	4.4	mA/V
Amplification Factor (g_1/g_2)	22.7	21.0	21.3	-
Approx. Grid Bias for Cut off	-21	-21	-51	Volts
Suppressor (g_3) Bias to reduce g_m (above) to 40 $\mu A/V$	-37.5	-73	-70	Volts
Equivalent Noise Resistance	3,800	3,650	3,650	Ohms
Input Impedance at 45 Mc/s	4,500	4,500	4,500	Ohms
" " " 90 "	900	900	900	Ohms

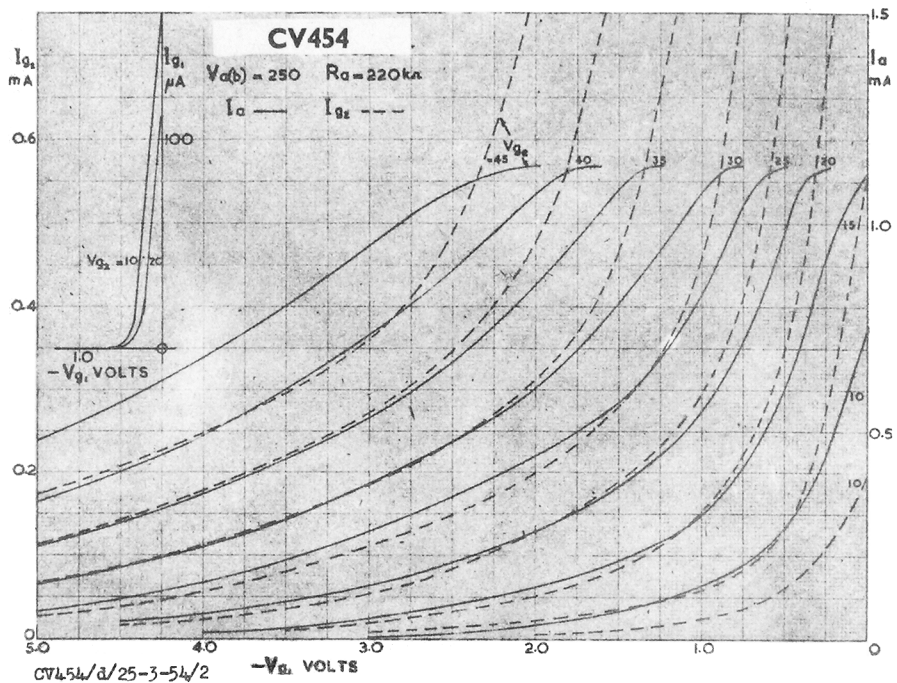
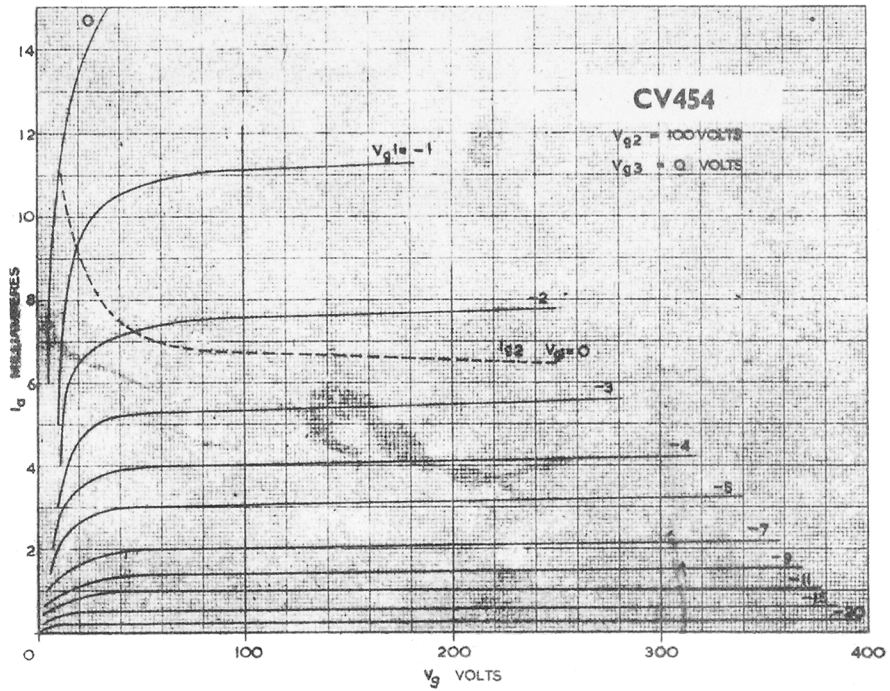
The valve is normally used as an I.F. amplifier but it may also be used as a normal R.C. coupled amplifier or as a grounded grid amplifier up to 100 Mc/s.

This type of valve will oscillate, either as a single stage or in push-pull, up to a frequency of 100 Mc/s.

Mounting Position - Any

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