

MINISTRY OF SUPPLY (D.C.D.)

Specification MAP/CV.131 Issue 7. Dated 5.5.52 To be read in conjunction with K.1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

—→ Indicates a change

TYPE OF VALVE - Miniature H.F. Pentode variable- μ CATHODE - Indirectly heated ENVELOPE - Glass			<u>MARKING</u> See K.1001/4		
			<u>BASE</u> B7G		
<u>RATING</u>		Note	<u>CONNECTIONS</u>		
			<u>Pin</u>	<u>Electrode</u>	
Heater Voltage	(V) 6.3				
Heater Current	(A) 0.2		1	G1	
Max. Operating Anode Voltage	(V) 300	A	2	C	
Max. Anode Voltage ($I_a = 0$)	(V) 500	A, E	3	H	
Max. Operating Screen Voltage	(V) 300	A	4	H	
Max. Screen Voltage ($I_a = 0$)	(V) 300	A, E	5	A	
Max. Anode Dissipation	(W) 3.0	A, C	6	G3 and I.S.	
Max. Screen Dissipation	(W) 0.7	A, C	7	G2	
Mutual Conductance	mA/V. 2.5	B			
<u>CAPACITANCES (pF)</u>			<u>DIMENSIONS</u> See K.1001/A1/D4		
			<u>Dimension</u>	<u>Min.</u>	<u>Max.</u>
G _{ae}	7.0	C, D	A m.m.	-	54.01
G _{ge}	4.5	C, D	B m.m.	-	19.05
G _{ag} (Max.)	.01	C, D	L m.m.	-	47.75
			F m.m.	34.04	42.16
<u>NOTES</u>					
A. Absolute maximum values.					
B. $V_a = 250$; $V_{g2} = 200$; $V_{g1} = -2.5$.					
C. Measured with a close fitting metal screen					
D. Measured with a shielded socket.					
E. With 5,000 ohms resistor in series with the anode and 20,000 ohms resistor in series with the screen.					

CV131

TESTS

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

Test Conditions							Test	Limits		No. Tested	Note
								Min.	Max.		
See K.1001/ALII Measurements to be made in Adaptor Type 124. Ref. LOAD/9							<u>CAPACITANCES (pF)</u>			6 per week	1
Links to H.P.	Links to L.P.	Links to E	1. Cae	5.8	8.2						
5	2,3,4,6, 7,8,9	1,10 TC1,TC2	2. Cge	3.8	5.2						
1	2,3,4,6, 7,8,9	5,10, TC1,TC2	3. Cag	-	.01						
5	1	2,3,4,6, 7,8,9,10 TC1,TC2									
	Vh	Va	Vg2	Vg3	Vg1	Ia(mA)					
b	6.3	0	0	0	0	0	Ih (A)	0.18	0.22	100%	or S
c	6.3	200	200	0	-	8.0	Vg1 (V)	1.5	3.5	100%	
d	6.3	200	200	0	-	8.0	Ig2 (mA)	1.6	2.6	100%	or S
e	6.3	200	200	0	-	8.0	gm (mA/V)	1.9	3.1	100%	
f	6.3	200	200	0	-	8.0	Reverse Igl (μ A)	-	0.5	100%	
g	6.3	200	200	0	-26	-	gm (μ A/V)	4.0	60	100%	2
h	6.3	200	200	0	-22	-	Ia (μ A)	25	800	100%	2
j	6.3	200	200	0	-	8.0	Vg2 change (V)	23	39	20 per week	
Reduce Vg1 by 1V. and reduce Vg2 to maintain Ia = 8 mA.											

NOTES

1. Test to be carried out with valves fully shielded.
2. It is not necessary for valves to be subjected 100% both to test (g) and test (h). If test (g) is applied to the production then it is not required that valves be subjected to test (h). If test (h) is applied to the production then 1% (20) of the valves must be subjected also to test (g).

TYPICAL OPERATING CONDITIONS

Valve Electronic Type **CV 131**

Heater Voltage = 6.3 V., $V_{g3} = 0$ V.

Anode Voltage	250	250	Volts
Screen ($g2$) Voltage	150	200	Volts
Anode Current	8.0	7.8	mA
Screen ($g2$) Current	2.0	2.0	mA
Control Grid ($g1$) Voltage	-0.65	-2.5	Volts
Cathode Bias Resistor	65	250	Ohms
Anode Impedance	1.0	1.0	Megohms
Mutual Conductance	2.5	2.5	mA/V
Inner Amplification Factor ($g1/g2$)	-	30	-
Control Grid Voltage for $g_m = 0.005$ mA/V	-28	-37	Volts

The effective external grid to cathode resistance should not exceed 4 megohms.

Mounting Position - Any.

CURVES TAKEN AT $V_a = 250$



