

MINISTRY OF SUPPLY (S.R.D.E.)

Specification MOS/CV1941/Issue 5	<u>SECURITY</u>	
Dated:- 5.9.46	<u>Specification</u>	<u>Valve</u>
To be read in conjunction with K1001.	Restricted	Unclassified

—> indicates a change

<u>TYPE OF VALVE:-</u> Variable - mu H.F. pentode			<u>MARKING</u>		
<u>CATHODE :-</u> Indirectly heated			See K1001/4		
<u>ENVELOPE:-</u> Glass - unmetallised			Additional marking :- 6K7G		
<u>PROTOTYPE:-</u> 6K7G					
<u>RATING</u>			<u>BASE</u> See K1001/A1/D2 IO M Dimension (ii) applies		
			<u>Note</u>		
Heater volts	6.3		<u>Pin</u>	<u>Electrode</u>	
Nominal heater current (A)	0.3		1	No connection	
Max. anode volts	300		2	Heater	
Max. screen volts	125		3	Anode	
Max. anode dissipation (W)	2.75		4	Screen grid	
Max. screen dissipation (W)	0.35		5	Suppressor grid	
Mutual conductance (mA/V)	1.45	A	6	Pin omitted	
Anode impedance (M)	0.8	A	7	Heater	
Anode current (mA)	7.0	A	8	Cathode	
Screen current (mA)	1.7	A	TC	Control grid	
Grid bias for mutual conductance of 2 uA/V (V)	-42.5	C			
<u>CAPACITANCES (pF)</u>			<u>TOP CAP</u>		
Cag	0.0035	B	See K1001/A1/D5.2		
Cae	12.0	B	<u>DIMENSIONS</u>		
Cge	5.0	B	See K1001/A1/D1		
			<u>Dimension</u>	<u>Min.</u>	<u>Max.</u>
			A mm	105	114
			B mm	-	40

NOTES

- A. At $V_a = 250V$, $V_{g1} = -3V$, $V_{g2} = 100V$, $V_{g3} = 0$.
 B. Taken with conventional shield.
 C. At $V_a = 250V$, $V_{g2} = 100V$, $V_{g3} = 0$.

To be performed in addition to those applicable in K1001.

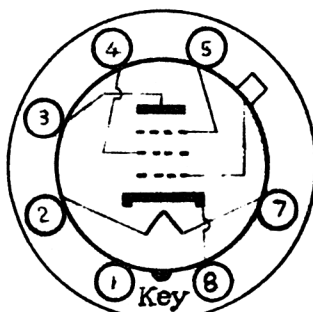
	Test conditions					Test	Limits		No. tested
							Min.	Max.	
a	See K1001/AIII					Capacitances (pF)			
	Links to H.P.	Links to L.P.	Links to E						
	3	TC ₁	1,2,4,5,6,7,8,9,10, TC ₂			(i) C _{ag}	-	0.007	T.A.
	3	1,2,4,5,7,8	6,9,10, TC ₁ , TC ₂			(ii) C _{ae}	8.0	14.5	6 per week
	TC ₁	1,2,4,5,7,8	3,6,9,10, TC ₂			(iii) C _{ge}	4.0	6.0	
b	V _h	V _a	V _{g3}	V _{g2}	V _{g1}	I _h (A)	0.27	0.33	100% or S
	6.3	0	0	0	0				
c	6.3	250	0	100	-3	I _a (mA)	4.9	9.5	100%
d	6.3	250	0	100	-3	I _{g2} (mA)	0.9	2.5	100% or S
e	6.3	250	0	100	-3	g _m (mA/V)	1.1	1.9	100%
f	6.3	250	0	100	-3	Rev I _g (uA)	-	1.0	100%
g	6.3	250	0	100	-30	I _a tail (uA)	50	500	100%

Data given for information of equipment designers and not subject to acceptance testing.

Issue No.b. Dated 18.12.44.
No. of Pages:- 2.

$V_h = 6.3 \text{ V.}$
 $I_h = 0.3 \text{ A.}$

See specification for
dimensions, connections,
main ratings and capacities.



Bottom
View

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS -
R.F. AMPLIFIER

Anode Voltage (V)	90	180	250	250
Screen Voltage (V)	90	75	100	125
Grid Bias Voltage (V) (Min.)	-3.0	-3.0	-3.0	-3.0
Amplification Factor	400	1100	1160	900
Impedance (Megohms)	0.315	1.0	0.8	0.6
Mutual Conductance (mA/V)	1.275	1.1	1.45	1.65
Bias for M. Cond. 0.01 mA/V	-30.0	-25.0	-35.0	-45.0 V.
Bias for M. Cond. 0.002 mA/V	-38.5	-32.5	-42.5	-52.5 V.
Anode Current (Normal) (mA)	5.4	4.0	7.0	10.5
Screen Current (mA)	1.3	1.0	1.7	2.6

Note : Suppressor connected to Cathode and Socket.

TYPICAL OPERATING CONDITIONS WITH VARIABLE BIAS - MIXER

Anode Supply Voltage (V)	250 (Max.)
Screen Voltage (V)	100
Grid Bias Voltage (V)	-10.0

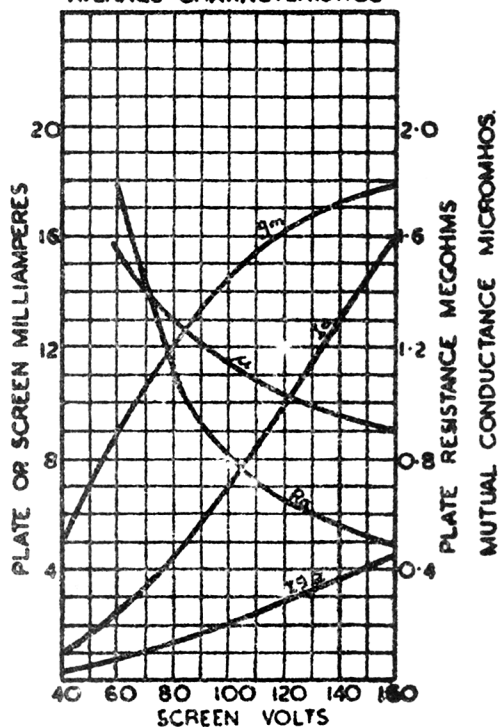
NOTES

- (1) Suppressor connected to cathode and socket.
- (2) The grid bias shown is minimum for an oscillator peak voltage of 7 V. These values are optimum.
- (3) Anode voltage = supply voltage minus drop across the anode load resistance.

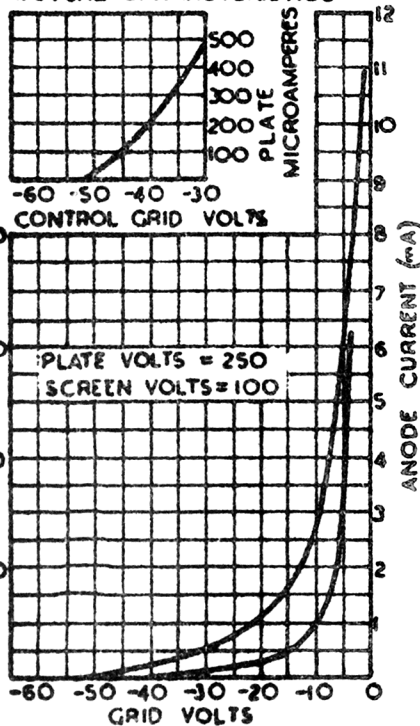
AMPLIFICATION FACTOR MUTUAL CONDUCTANCE MICROMHOS

 $V_a = 250V$: GRID VOLTS = -3V

AVERAGE CHARACTERISTICS



MUTUAL CHARACTERISTICS



AVERAGE ANODE CHARACTERISTICS.

SCREEN VOLTS = 100

