

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

Specification MOS/CV509/Issue 7 Dated:- 12.10.48 To be read in conjunction with K1001	<u>SECURITY</u>	
	<u>Specification</u> Restricted	<u>Valve</u> Unclassified

→ indicates a change

<u>TYPE OF VALVE:-</u> Output Beam Tetrode <u>CATHODE:-</u> Indirectly heated <u>ENVELOPE:-</u> Glass-ummetallised <u>PROTOTYPE:-</u> 6V6G			<u>MARKING</u> See K1001/4 Additional marking:- 6V6G		
<u>RATING</u>		Note	<u>BASE</u> IO		
Heater voltage (V) 6.3 Heater current (A) 0.45 Max. anode voltage (V) 350 Max. screen voltage (V) 310 Max. anode dissipation (W) 13.2 Max. screen dissipation (W) 2.2 Mutual conductance (mA/V) 4.1			A	Pin	Electrode
<u>CAPACITANCES (pF)</u> Cag (max) 0.8 Cae 8.0 Cge 10.0		1		No connection	
		2	Heater		
		3	Anode		
		4	Screen grid		
		5	Control grid		
		6	Pin omitted		
		7	Heater		
		8	Cathode and beam-forming plates		
			<u>DIMENSIONS</u> See K1001/AI/D1		
			Dimensions	Min.	Max.
<u>NOTE</u> A. Measured at $V_a = V_{g_2} = 250V$, $V_{g_1} = -12.5V$			A mm	-	117
			B mm	-	46

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions				Test	Limits		No. tested
	Vh	Va	Vg ₂	Vg ₁		Min.	Max.	
a	6.3	-	-	-	I _h (A)	0.41	0.49	100% or S
b	6.3	250	250	-12.5	I _a (mA)	33.0	57.0	100% ←
c	6.3	250	250	-12.5	I _{g₂} (mA)	-	7.5	100% or S ←
d	6.3	250	250	-12.5	g _m (mA/V)	3.0	5.2	100%
e	6.3	250	250	-12.5	Rev. I _{g₁} (μA)	-	2.0	100% ←
f	6.3	30	30	30	Emission (mA)	100	-	100%

OUTPUT BEAM TETRODE.

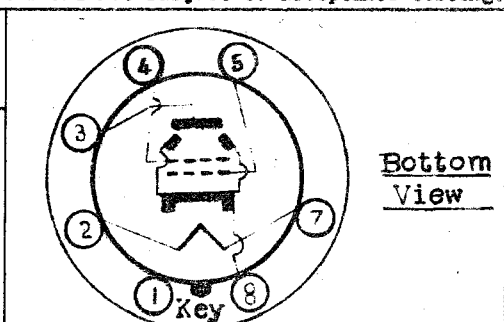
DATA SHEET.

6V6G

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

Issue No. b. Dated 18.12.44.
No. of pages 4-2.

$V_h = 6.3 \text{ V.}$
 $I_h = 0.45 \text{ A.}$
See specification for dimensions, connections, main ratings and capacities.



TYPICAL OPERATING CONDITIONS.

SINGLE VALVE AMPLIFIER - CLASS A1 (FIXED BIAS) (SEE NOTE 1).

Anode Voltage (V)	250
Screen Voltage (V)	250
Grid bias voltage (V) (See Note 2)	-12.5
Peak A.F. grid voltage (V)	12.5 Max.
Anode current - zero signal (mA)	45.0
Anode current - max. signal (mA)	47.0
Screen current - zero signal (mA)	4.5
Screen current - max. signal (mA)	6.5
Load resistance (ohms)	5000
Harmonic distortion - total	6.0%
Harmonic distortion - second	4.5%
Harmonic distortion - third	3.5%
Output power - max. signal (W)	4.25

PUSH-PULL AMPLIFIER - CLASS AB1 (FIXED BIAS) (SEE NOTE 1) (VALUES FOR TWO VALVES).

Anode Voltage (V)	250	300
Screen Voltage (V)	250	300
Grid Voltage (V)	-15.0	-20.0
Peak A.F. Grid to Grid Voltage (V)	30.0	40.0
Anode current - zero signal (mA/V)	70.0	78.0
Anode current - max. signal (mA)	79.0	90.0
Screen current - zero signal (mA)	5.0	5.0
Screen current - max. signal (mA)	12.0	13.5
Load resistance anode (ohms)	10,000	8,000
Harmonic distortion - total	4.0	4.0%
Harmonic distortion - third	3.5	3.5%
Output Power - max. signal (W)	8.5	13.0

NOTES

1. Subscript 1 indicates that grid current does not flow during any part of the input cycle.
2. Transformer or impedance coupling is recommended. When the grid circuit resistance is not higher than 0.05 Megohm fixed bias may be used; for higher values self-bias is required. With self-bias the grid circuit resistance may not exceed 0.5 Megohm provided the heater voltage is not allowed to rise more than 10% above the rated value of 6.3 V. under any condition of operation.

