VALVE ELECTRONIC CV509
(6V6G)

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

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

→ indicates a change

TYPE OF VALVE:- Output Beam Tetrode
CATHODE:- Indirectly heated
ENVELOPE:- Glass-unmetallised
PROTOTYPE:- 6V6G

MARKING
See K1001/4
Additional marking:-
6V6G

RATING

			Note
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

CAPACITANCES (pF)

Cag (max)	0.8
Cae	8.0
Cge	10.0

See K1001/AI/D2 BASE
IO
M Dimension (V) applies

Pin	Electrode
1	No connection
2	Heater
3	Anode
4	Screen grid
5	Control grid
6	Pin omitted
7	Heater
8	Cathode and beam-forming plates

DIMENSIONS
See K1001/AI/D1

Dimensions	Min.	Max.
A mm	-	117
B mm	-	46

NOTE

A. Measured at Va = Vg_2 = 250V,
Vg_1 = -12.5V

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	-	-	-	Ih (A)	0.41	0.49	100% or S
b	6.3	250	250	-12.5	Ia (mA)	33.0	57.0	100%
c	6.3	250	250	-12.5	Ig_2 (mA)	-	7.5	100% or S
d	6.3	250	250	-12.5	gm (mA/V)	3.0	5.2	100%
e	6.3	250	250	-12.5	Rev. Ig_1 (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.

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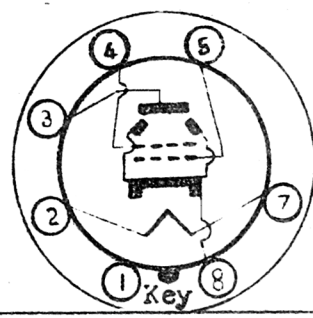
No. of pages :-2 .

Vh = 6.3 V.
Ih = 0.45 A.

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



Bottom View

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.