THIS IS USED

MINISTRY OF SUPPLY - DLRD(A)/RRE (South) VALVE ELECTRONIC

CV1949

Specification MOS(A)/CV1949
Issue 2 Dated 5. 5. 55
To be read in conjunction with K1001 and BS.448

SECURITY	
Specification	Valve
UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Gas Triode Thyratron
CATHODE - Indirectly-heated
ENVELOPE - Glass - Unmetallised
PROTOTYPE - 6D4
RETMA DESIGNATION - 6D4

MARKING

See K1001/4 and Note C

RATING

			Note
Heater Voltage	(V)	6.3	B
Heater Current	(A)	0.25	
Max. DC Anode Supply Voltage	(V)	250	
Peak Forward Anode Voltage	(V)	350	
Peak Inverse Anode Voltage	(V)	350	
Peak DC Anode Current	(A)	0.11	
Max. DC Anode Current	(mA)	25	
Max. Cathode Heating-time	(secs)	30	
Max. DC Grid Voltage	(V)	-150	
Max. Heater-cathode Voltage	(V)	-110	
Max. Duty Cycle	(%)	0.75	
Max. Ambient Operating Temperature Range	(°C)	-55 to +90	

BASE

B7G

CONNECTIONS

Pin	Electrode
1	Grid
2	No connection
3	Heater
4	Heater
5	Cathode
6	No connection
7	Anode

DIMENSIONS

See BS.448 : 1953 B7G/2.1.2

Dimension (mm)	Min.	Max.
A Seated height	-	47.5
C Diameter	-	19.0
D Overall length	-	54.5

MOUNTING POSITION

Any

NOTES

A. All limiting values are absolute.

B. ± 10%.

C. In addition to the requirements of K1001/4 the RETMA designation shall also be clearly and indelibly marked on the valve.

To be performed in addition to those applicable in K1001
and in the specified order unless otherwise agreed with the Inspecting Authority

Test Conditions - unless otherwise specified

Vh (V)	Va (V)	Rhk (megohm)	Rg (megohm)	RL (ohms)	Rk (ohms)
6.3±10%	125 DC	1.0	0.5	650	4000

	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
a	Vibration	No voltage See K1001/11.1		TA		-	-	
b	Heater Current		6.5	IA	Ih	230	270	mA
c	Insulation	Vhk = -100V DC	6.5	IA	Ihk	-	15	uA DC
d	Grid-cathode Voltage	Vg = -20V DC; Rhk = 0; Note 1		100%	Vgk	-	2.0	V DC
e	Grid Voltage (1)	See K1001/AIX/2.4 Notes 2 and 3		100%	Vg	-11.0	-14.0	V DC
f	Grid Voltage (2)	Va = 50V DC Note 2	6.5	IA	Vg	- 5.0	- 7.0	V DC
g	Grid Voltage (3)	Va = 300V DC Note 2	6.5	IA	Vg	-21.0	-31.0	V DC
h	Voltage drop across the valve	ra/Ia = 100mA DC		100%	Vak	-	18	V DC
→ j	Noise Output	Va = 250V DC; Rg = Rk = 0; RL = 33k; Note 4		100%	Va AC	10	-	V AC
k	Life Life Test End-point 500 hours	Va = 250V DC; Vg = -20V DC; Vhk = 110V; RL = 5k; Rhk disconnected See K1001/AVI/5 Grid Voltage (1) Noise Output Note 4	4.0	IB	 Vg Va AC	 - 9.5 9.0	 -15.5 -	 V DC V AC

CV1949

NOTES

1. Voltage measured across the specified grid resistor, 0.5 megohm .

2. Grid voltage increased until the valve conducts. Value required to effect conduction shall lie within the specified limits.

3. This test may be performed **before** and shall be performed at the conclusion of the holding period.

4. The valve shall be placed in the circuit shown in Fig. 1 in a constant magnetic field of 375 ± 20% gauss which is perpendicular to the normal electron path. The direction of the magnetic field shall be such as to deflect the electron beam toward the top of the valve. The noise voltage measured at the anode of the valve and across the output of the circuit shall be not less than the specified limit in peak-to-peak volts. The oscilloscope used for the measurement of noise amplitude shall have a 3db video bandwidth extending to at least 4 Mc/s.

FIG. 1