CV2215

MINISTRY OF SUPPLY (D.L.R.D.(A)R.A.E.) VALVE ELECTRONIC

Specification MOS/A/CV.2215 Issue 4 Dated 10.12.54 To be read in conjunction with BS.448, BS.1409 and K1001 ignoring clause 5.2	SECURITY	
	Specification	Valve
	UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Gas filled triode

CATHODE - Directly heated

ENVELOPE - Glass

PROTOTYPE - 5545

MARKING

See K.1001/4

BASE

B4D

RATING			Note
Filament Voltage	(V)	2.5	
Filament Current	(A)	21	A
Max. Peak Forward Anode Voltage	(kV)	1.5	
Max. Peak Inverse Anode Voltage	(kV)	1.5	
Max. Peak Anode Current	(A)	80	
Max. Mean Anode Current	(A)	6.4	B
Max. Surge Anode Current for 0.1 sec. max.	(A)	1000	C
Max. grid voltage before Conduction	(V)	-250	
Max. grid voltage during Conduction	(V)	-10	
Max. Peak Grid Current with Anode negative	(mA)	25	D
Max. Mean Grid Current with Anode positive	(A)	0.2	
Max. Commutation Factor		130	E
Ambient Temperature Range	(°C)	-55 to +70	
Max. Series Grid Resistor	(Megohms)	0.1	

CONNECTIONS

Pin	Electrode
1	g1
2	f
3	f
4	NC
T.C.	a

TOP CAP

See BS.448/CT3

MOUNTING POSITION

Any, between horizontal and vertical with base downwards.

DIMENSIONS

See K.1001/A1/D1

Dimension	Min.	Max.
Amm	178	229
Bmm	-	67

NOTES

A. Min. Filament Heating Time = 60 secs.

B. Max. Time of Averaging = 15 secs.

C. This figure is given as a guide to circuit designers for worst fault conditions.

D. With the anode more negative than -10 V, averaged over 1 cycle.

E. Commutation Factor is defined as the product of the rate of change of anode current just prior to extinction (in Amp./μ sec.) and the rate of rise of inverse anode voltage immediately following current extinction (Volt/μ sec.). If the max. Commutation Factor is exceeded the life of the valve will be reduced.

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

	Test Conditions							Test	Limits		No. Tested	Note
	Wf (V)	Va Peak (V)	Va PIV (V)	Series Resistor Grid (ohms)	Series Resistor Anode (ohms)	Vg (V)	Ia (V)		Min.	Max.		
a	2.5	-	-	-	-	-	-	If (A)	18	24	100% or S	
b	2.5	1500 D.C.	-	0	1K to 100K	Adjust	-	Vg for Conduction (V)	4.0 Value to be noted	15	100%	
c	2.5	1500 D.C.	-	1M	1K to 100K	Adjust	-	Variation in Vg from value found in test b. (V)		2	100%	
d	2.5	Adjust D.C.	-	0	1K to 100K	0	-	Va for Conduction (V)	-	200	100%	
e	2.5	Adjust D.C.	-	-	-	0	6.4	Voltage Drop (V)		12	100%	
f	2.5	1650 (fwd)	1650	100K	200K	-275	-	Forward and Inverse Voltage			100%	3 & 4
g	2.5	1500 peak A.C. 50 c/s					6.4				100%	
	(1) With grid resistor = 1.1 megohm adjust Vg to cut-off.							Vg (V)	Value to be noted			1 & 2
	(2) Change grid resistor to 100 K ohms and re-adjust Vg for cut-off.							Vg (V)	Value to be noted			
								Reverse Ig (μA) (Calculated from 1 and 2 above).	-	5		
h	Ia peak = 500A, derived from 50 c/s A.C. source for period of 0.1 sec. The valve shall be run then for five minutes with Ia = 6.4A, derived from 50 c/s A.C. source.							At the conclusion of this test the valve shall meet all the other electrical requirements of this specification.			TA	

NOTES

1. A "Cheater" circuit may be used so that the current is drawn from a lower voltage supply while 1,500 V is maintained in the reverse direction, but such a circuit must be approved.

2. The grid voltage for this test shall be in the form of a short duration pulse superimposed on a steady negative bias and arranged such that the valve fires at the 90° point on the anode voltage sine curve.

3. Preheat for 3 minutes.

4. The valve shall be tested in the circuit for 30 seconds during which time there must be no breakdown in either direction. An oscilloscope shall be used to observe the anode voltage.