MINISTRY OF SUPPLY - DLRD(A)/RRE

VALVE ELECTRONIC

CV2298

Specification MOS(A)/CV2298 Issue 1 Dated 6.10.53 To be read in conjunction with K1001 excluding clauses 5.2, 5.8.	SECURITY Specification: UNCLASSIFIED Valve: UNCLASSIFIED

TYPE OF VALVE - Transmitting Tetrode

CATHODE - Directly-heated thoriated tungsten

ENVELOPE - Metal-glass construction

PROTOTYPE - Mod. CV1583

MARKING

See K1001/4.

BASE

See Drawing on Page 4.

RATING

			Note
Filament Voltage	(V)	10.0	A
Filament Current	(A)	70.0	A,C
Max. Anode Dissipation	(W)	500	B
Max. Operating Frequency	(Mc/s)	60	
Max. Seal Temperature	(°C)	140	

DIMENSIONS AND CONNECTIONS

See Drawing on Page 4.

CAPACITANCES (pF)

Anode to all other electrodes	20
Grid to all other electrodes	35
Cag (max.)	2

NOTES

A. Adequate cooling of the filament leads and adjacent re-entrant portion of the envelope, shall be provided by at least 10 cubic feet of air per minute with a pressure drop in the order of 2 inches of water.

B. For this dissipation forced air cooling must be provided by at least 85 cubic feet of air per minute with a pressure drop across the valve in the order of 2 inches of water.

C. The valve should be operated at a constant current of 70 amperes to ensure maximum life. Under these conditions the range of filament voltage will be 9.3 to 10.7 volts.

Z.5401.R.

To be performed in addition to those applicable in K1001

	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested	Note
	Forced air cooling for the filament leads and the anode shall be provided by not more than 10 cu. ft. and 85 cu. ft. of air per min. respectively with a pressure drop across the valve in the order of 2 ins. of water.									
	Vf (V)	Va (V)	Vg2 (V)	Vg1 (V)	Ia (mA)					
a	10.0	Raised slowly to 35 kV and maintained until flashing ceases.	Strapped and connected to a negative supply.		A trace	Hot Flash Process Anode voltage to be maintained at 35 kV for a period of 5 minutes without further flashing.	-	-	100%	1,2
b	0	7.5 kV RF at 22 Mc/s applied between screen and control grids. Anode connected to earth; filament not connected. Tp = 5 µsecs; PRF = 300.				Conditions to be maintained for 1 minute without breakdown.	-	-	100%	2
c	10.0	0	0	0	0	If (A)	66.5	73.5	100%	
d	10.0	1.2 kV	1.2 kV	-	420	Reverse Ig (mA)	-	1.0	100%	
e	10.0	1.2 kV	1.2 kV	-	420	Vg1 (V)	-70	-105	100%	
f	10.0	1000V reduced to 700V	1000V reduced to 700V	-	Maintained at 200	Vg1 change (V)	48	64	100%	
g	10.0	Strapped. Pulse of peak value 6 kV, half sine waveform. Tp = 2 µsecs; PRF = 50.				Ic (A)	70	-	100%	
h	See K1001/AIII					Capacitances (pF) Ca - all Cg - all Cag	 16.0 26.3 -	 24.0 43.7 2.0	 2% (1)	

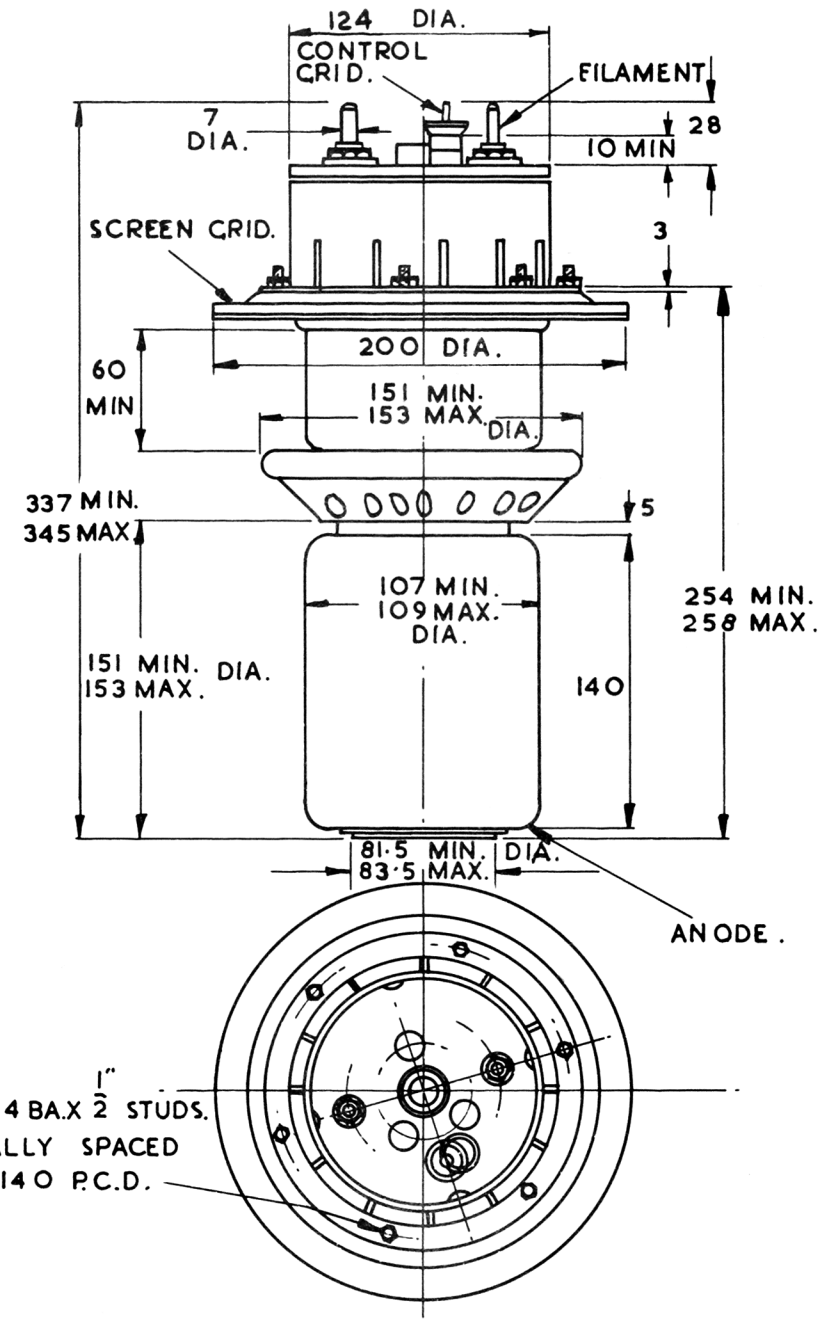
TESTS (Cont'd)

	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested	Note
j	Life A minimum life of 500 hours is expected, life failure being considered to occur when the emission of the valve has fallen below 0.5A at Vf = 6.6V, with Va, Vg2, and Vg1 = 300V.					

NOTES

1. For this hot flash process there shall be a 300 ohm resistor in series with the applied volts, and a capacitance of 0.25 µF in parallel with the supply volts on the supply side of the resistor.

2. Once the conditions specified have been met the test conditions need not be repeated for acceptance testing.



ALL DIMENSIONS IN MILLIMETRES.

CV2298/1/4.