MINISTRY OF SUPPLY (D.C.D.)

VALVE ELECTRONIC **CV1090**

Specification MAP/CV1090/Issue 3 Dated 1.12.49. To be read in conjunction with K1001.	SECURITY Specification: RESTRICTED Valve: UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE:- Triode

CATHODE - Directly heated - thoriated tungsten.

ENVELOPE - Metal - glass construction

MARKING

See K1001/4 ←

PACKING

See K1005 ←

RATING			Notes
Filament Voltage	(V)	8.25	
Filament Current	(A)	7.0	
Max. Anode Voltage	(kV)	9.0	
Max. Anode Dissipation	(W)	100	B
Amplification Factor		16	A
Max. Operating Frequency	(Mc/s)	300	
CAPACITANCES (pf)			
Cag		3.75	
Cgf		2.20	
Caf		0.90	

BASE

None

Dimensions and Connections

See Drawing on Page 4.

NOTES

A:- At Va = 1.0kV., Ia = 100mA.

B:- Forced air cooling must be provided so that the temperature of the anode radiator does not exceed 140°C., measured at the junction of the anode and the cooling fins. A suitable air flow is approx. 8 cu.ft. per minute with a pressure drop across the valve of the order of 1 1/2 inches of water. Forced air cooling must be applied before the filament is switched on.

C:- The valve must be mounted vertically.

D:- The attention of equipment designers is drawn to the fragility of the valve seals, and consequently special care should be exercised in the mechanical design of associated circuits.

TESTS

To be performed in addition to those applicable in K1001.

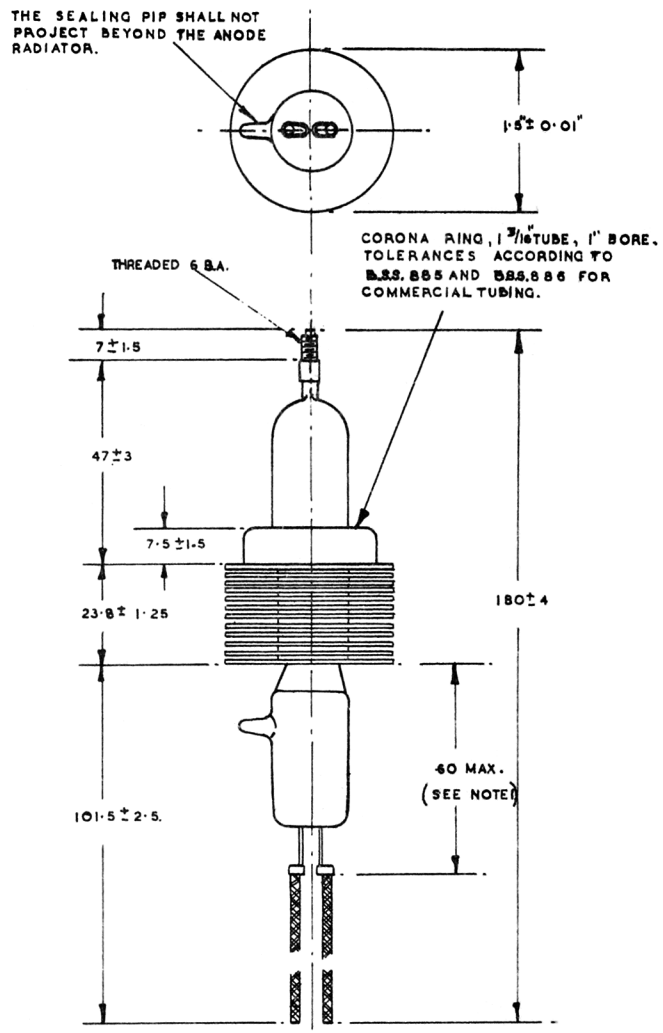
	Test Conditions				Test	Limits Min.	Limits Max.	No. Tested	Note
For the following tests forced air cooling shall be provided so that the temperature of the anode radiator shall not exceed 140°C. measured at the junction of the anode and cooling fins. A suitable air flow is 8 cu. ft. per minute with a pressure drop across the valve of the order of 11/2 inches of water.									
	Vf	Va	Vg	Ia(mA)					
a	8.25	Raised slowly to 10 kV. and maintained until flashing ceases	Preferably automatic bias	Any value between 0.5 and 3.0	HOT FLASH PROCESS Anode voltage maintained at 10kV. for a period of 2 mins. during which time the valve shall not give any indication of breakdown			100%	1
b	8.25 (A.C)	0	0	-	If (A)	6.4	7.6	100%	
c	8.25 (A.C)	1000	-	100	Reverse Igl (μA)	-	10	100%	
d	8.25 (A.C)	1000	-	100	Vgl (V)	-19.0	-23.0	100%	
e	8.25 (A.C)	700	-	100	Change in Vgl from value obtained in test (d)	16	22	1% (1)	
f	-	1000	-	10	Vf (V)	-	3.5	100%	
g	8.25	Strapped, Peak applied Voltage 1500. Test to be performed by an approved method.		-	Peak Space Current (A)	5	-	100%	2
h	8.25 (A.C)	0	-3000	-	Reverse Igl (μA)	-	20	100%	
j	8.25 (A.C)	-	-104	4	Va (V)	1325	1700	100%	2
k	See K1001A/III. Measured using Adaptor type 100. Ref. 10A/17529				CAPACITANCES (pF)				
	Links to H.P.	Links to L.P.	Links to E						
	2	3	1,4,5,6,7 8,9,10 TC1, TC2		1. Cag	3.0	4.5	1% (1)	
	3	1,5	2,4,6,7,8 9,10 TC1, TC2		2. Cgf	1.5	2.9		

NOTES

1. Once the conditions specified in test clause (a) have been met, the test conditions need not be repeated for acceptance testing. For this hot flash process there shall be a 500 ohms resistor in series with the applied voltage and a capacitance of 0.15 μF. in parallel with the supply voltage on the supply side of the resistor.

2. The valve shall be subjected to either test (f) or test (g)

VALVES TYPES VT90 & CV46.



NOTE 1:— THIS DIMENSION SHALL INCLUDE ANY RIGIDITY OF THE FILAMENT LEADS DUE TO THE SPREAD OF SOLDER FROM THE CONNECTIONS WITH THE TUNGSTEN LEAD OUT WIRES

ALL DIMENSIONS IN mm. UNLESS OTHERWISE STATED.