VALVE ELECTRONIC CV323

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT

Specification AD/CV323/Issue No. 3. Dated : 1. 7. 54. To be read in conjunction with K1001, ignoring clauses: 5.2, 5.3, 5.8, 7.2.	SECURITY	
	Specification	Valve
	Unclassified	Unclassified

→ Indicates a change

TYPE OF VALVE:- X-band reflex klystron with long tuning range.

CATHODE:- Indirectly Heated.

ENVELOPE:- Copper and Glass.

PROTOTYPE:- KRN2, K303.

MARKING

CV323
Serial No.

Marking on base shell.

	RATING		Note
	Heater Voltage (V)	4.0	B
→	Heater Current (A)	1.3	
→	Tuning Range for Output Power of at least 30 mW. (cms)	2.95 to 3.48	B
→	Tuning Range for Output Power of at least 60 mW. (cms)	3.1 to 3.2	
	Max. Resonator Dissipation (W)	10	A,E
	Max. Resonator Voltage (kV)	1.6	
	Max. Resonator Current (mA)	6.25	
	Reflector Voltage Range (V)	-200 to -550	
	Max. Negative Vg for Oscillation Cut-off. (V)	150	D
	Max. Grid and Reflector Series Resistance. (Ω)	25,000	

BASE

I.O.

CONNECTIONS

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

TOP CAP

See K1001/AI/D5/5.2.
Reflector

DIMENSIONS

See Drawing, page 3.

NOTES

A. With convection cooling in free air.

B. The valve must operate satisfactorily with any Vh within the range 4.0 + 0.2 V.

C. The external circuit is to be plated with silver. All other metal parts, excluding the valve pins and top cap, are to be given an approved corrosion resisting coating.

D. This figure is not necessarily the same as that for starting oscillation, as there is an hysteresis effect which varies from valve to valve; it should therefore be used with caution.

E. Absolute maximum value.

TESTS

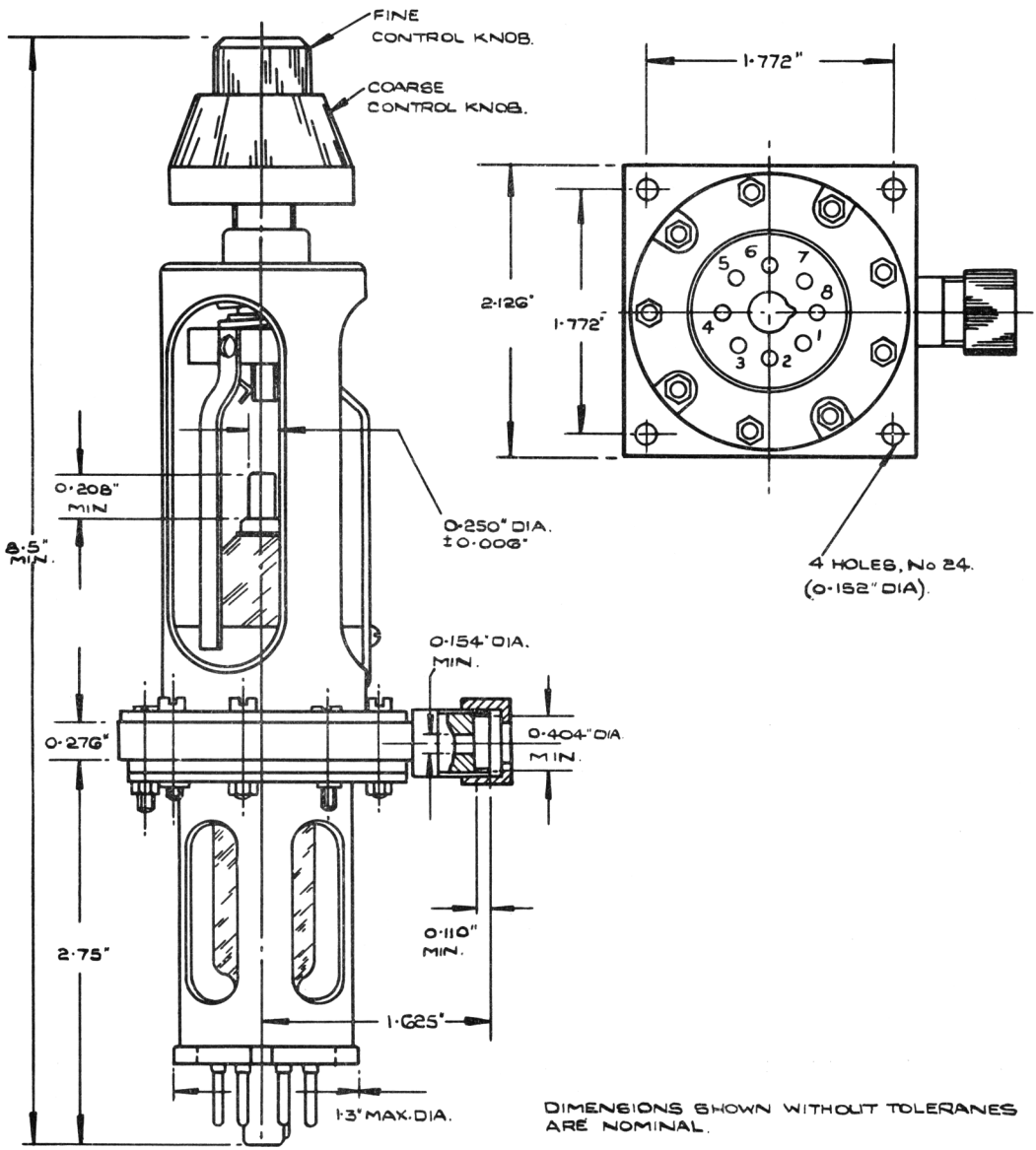
To be performed in addition to those applicable in K1001.

	Test Conditions					Test	Limits		No. Tested	Note
	Vh (V)	Va (kV)	Ia (mA)	Vg (V)	Vr (V)		Min.	Max.		
a	4.0	0	0	0	0	Ih (A)	1.0	1.6	100%	
b	4.0	1.6	6.25	Adjust at each frequency	Adjust at each frequency	i. Output power in the tuning range 2.95 to 3.48 cms (mW)	30	-	100%	1,2. ←
	The oscillation frequency is altered by means of the tuning control on the valve and Vr is adjusted to give max. output power at each frequency.					ii. Output power in the tuning range 3.10 to 3.20 cms. (mW)	60	-		
						iii. Vr (V)	-200	-550		
						iv. Vg (V)	-5	-100		
c	4.0	1.6	6.25	Adjust	Adjust	Vg to cut off oscillations at any frequency. (V)	-	-150	100%	←
d	C-G Voltage 250 V min.					C-G Insulation. (MΩ)	0.1	-	100%	
e						Capacitances Grid to heater and cathode + resonator. (pF)	-	15	T.A.	

NOTES

1. The series resistance in the grid and reflector leads shall be 50 kΩ in all these tests.

2. A graph of output power against wavelength is to be supplied with each valve. The output power is to vary continuously with the wavelength over the tuning range 2.95 to 3.48 cms. The output must not jump when the tuning control is moved.


FINE CONTROL KNOB.
COARSE CONTROL KNOB.
1·772"
2·126"
1·772"
5
6
7
8
4
1
3
2
0·208" MIN.
8·5" MIN.
0·250" DIA. ±0·003"
4 HOLES, No 24. (0·152" DIA).
0·154" DIA. MIN.
0·404" DIA. MIN.
0·276"
0·110" MIN.
2·75"
1·625"
1·3" MAX. DIA.
DIMENSIONS SHOWN WITHOUT TOLERANES ARE NOMINAL.

ELECTRONIC VALVE SPECIFICATION, AD/CV323, ISSUE 3.

AMENDMENT "A".

Page 3, Drawing.

Overall Length.

For 8.5" MIN. read 8.5" MAX.

30th October 1954.

T.V.C. Office.
for A.S.R.E.

Z.7566.R.