MINISTRY OF SUPPLY (R.R.D.E.)

CV 2273

VALVE ELECTRONIC

Specification MOS/CV2273 Issue 2, Dated 4.3.53 To be read in conjunction with K1001 ignoring clause 5.3	SECURITY	
	Specification	Valve
	Unclassified	Unclassified

TYPE OF VALVE:- Velocity modulated oscillator with waveguide output

CATHODE:- Indirectly-heated

PROTOTYPE:- K302

RATING		Note
Heater voltage (V)	6.3	
Heater current (A)	0.56	
Max. resonator voltage (V)	400	
Max. resonator dissipation (W)	20	
Reflector voltage range (V)	-110	A
	-180	A
Min. R.F. power output (mW)	15	
Mechanical tuning range (Mc/s)	9430	
	-9650	
Min. electronic tuning range (Mc/s)	20	
Nominal reflector voltage change to give 20 Mc/s electronic tuning (V)	15	
Max. total impedance in reflector to cathode circuit (Megohm)	0.25	

MARKING

See K1001/4

BASE

I.O.

CONNECTIONS

Pin	Electrode
1	No connection
2	Heater
3	Blank
4	Blank
5	Resonator
6	Blank
7	Heater-Cathode
8	No connection
T.C.	Reflector

TOP CAP

See K1001/A1/D5.2

DIMENSIONS

See drawing page 4

MOUNTING POSITION

Any

NOTES

A. Each valve is marked with the reflector voltage at-which the valve will oscillate and give a power output of at least 5 mW over the whole band. It is also marked with the micrometer reading which gives 9540 Mc/s.

B. The reflector voltage must always remain negative with respect to the cathode. If under A.F.C. working there is a chance of the reflector voltage becoming equal to or positive with respect to the cathode a protective diode must be used.

To be performed in addition to those applicable in K1001

	Test Conditions				Test	Limits		No. Tested	Note
	Vh (V)	Vres. (V)	Vref. (V)	Freq. (Mc/s)		Min.	Max.		
a	6.3	0	0	-	Heater Current (A)	0.52	0.61	100%	
b	6.3	350	Adjust	9540 ±20	R.F. Power Output (mW) Measured within three minutes of switching on all supplies.	12	-	10% (5)	
					Reflector Voltage (V)	-110	-180	10% (5)	1
c	6.3	350	Adjust	9540 ± 20	Frequency Drift (Mc/s) Measured as the frequency change between 4 minutes and 10 minutes after switching on all supplies.	0	-5	100%	
					Reflector Voltage (V)	-110	-180	10% (5)	1
					Beam Current (mA)	-	44	10% (5)	
d	6.3	350	Adjust	9430	R.F. Power Output (mW)	15	-	100%	
					Reflector Voltage (V)	-110	-180	100%	1
e	6.3	350	Adjust	9430	Electronic Tuning (Mc/s) Measured at 3 db points.	20	40	100%	
f	6.3	350	Adjust	9650	R.F. Power Output (mW)	15	-	100%	
					Reflector Voltage (V)	-110	-180	100%	1
g	6.3	350	Adjust	9650	Electronic Tuning (Mc/s) Measured at 3 db points.	20	40	100%	
h	6.3	350	Adjust (Note 2)	9430	Hysteresis There shall be no discontinuous change in output within ± 10 Mc/s of mode centre.	-	-	100%	2

TESTS (Contd.)

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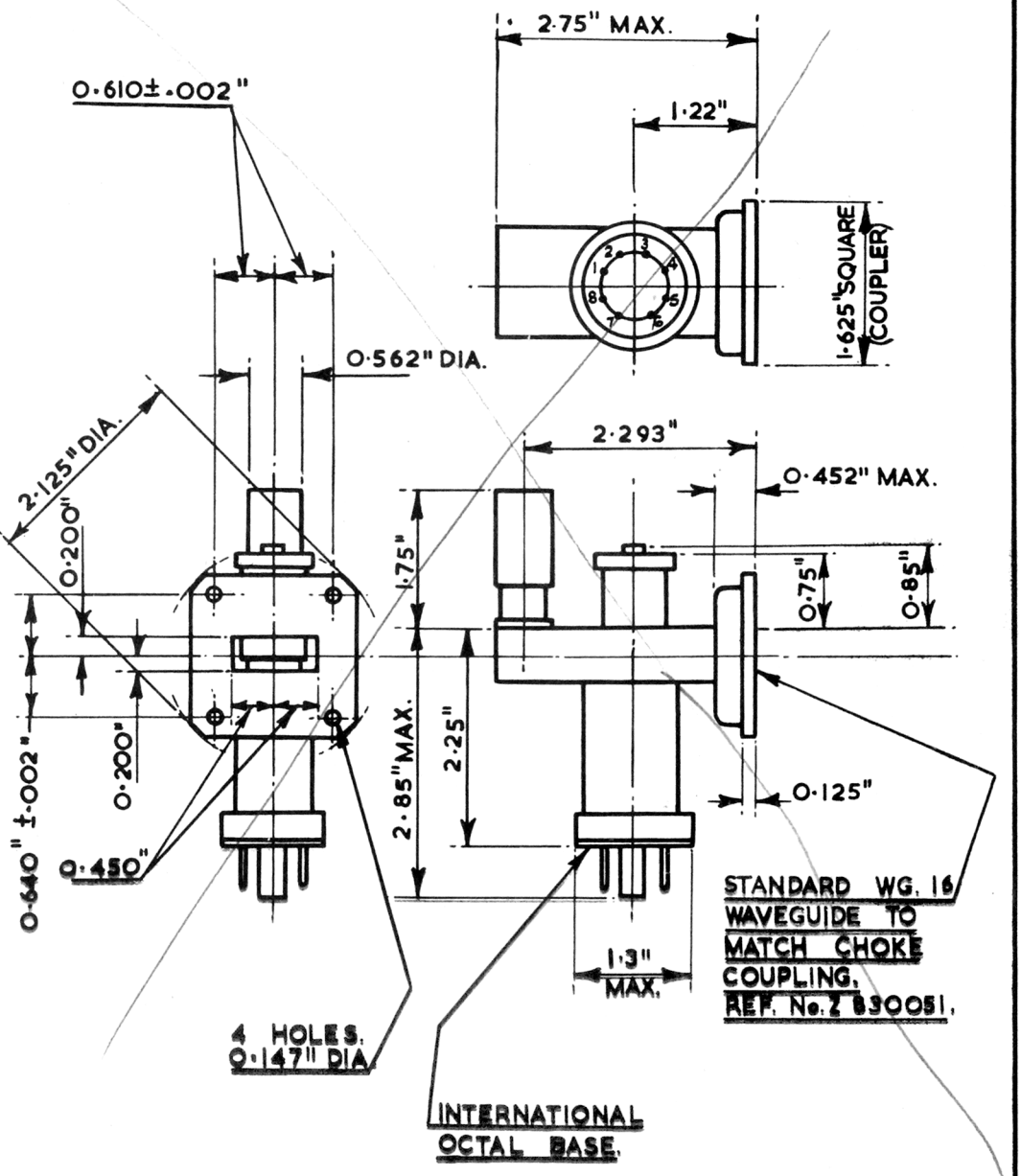
Test Conditions					Test	Limits		No. Tested	Note
	Vh (V)	Vres (V)	Vref (V)	Freq. (Mc/s)		Min.	Max.		
j	6.3	350	Adjust (Note 2)	9650	Hysteresis There shall be no discontinuous change in output within ± 10 Mc/s. of mode centre.	-	-	100%	2
k	6.3	350	Adjust	9540 ± 20	Frequency Variation (Mc/s) When Megohm resistor is inserted in series with reflector lead	-	4	10% (5)	1
m	6.3	350	Adjust Value to be marked on valve	9430 to 9650	Reflector Voltage (V) To give at least 5 mW power output over full frequency range.	-110	-180	100%	
n	5.7	350	Adjust	9540 ± 20	R.F. Power Output (mW)	10	-	10% (5)	
o	5.7	350	As for test (n)	As for Test (n)	Decrease in Beam Current from value in test (c)	-	20%	10% (5)	
					Reflector Voltage	-110	-180	10% (5)	1
p	6.3	350	Adjust		Micrometer Reading Set micrometer to reading marked on valve. Measure frequency (Mc/s)	9530	9550	100%	

NOTES

1. Reflector voltages given correspond to the maximum power point of the reflector mode.
2. Reflector voltage to be varied 30 volts peak to peak at a frequency greater than 40 c/s and D.C. adjusted so as to display whole mode.

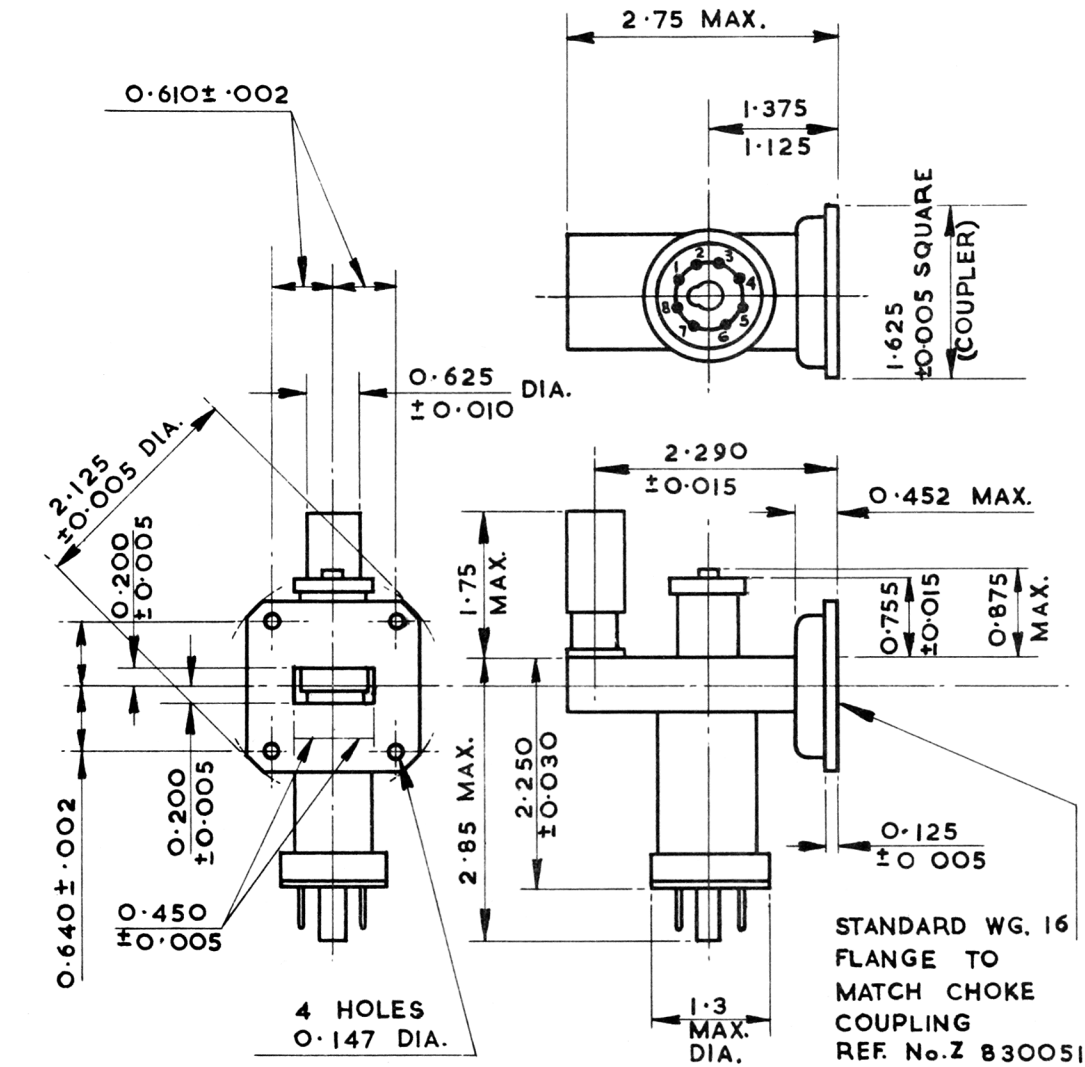
Superseded by Page 5

OUTLINE OF VALVE CV2273

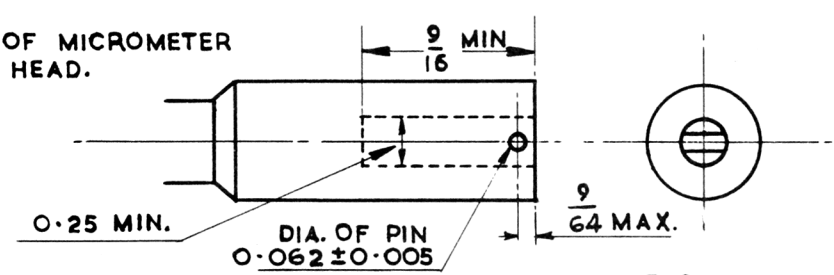


CV2273

OUTLINE OF VALVE CV 2273



DETAILS OF MICROMETER TUNING HEAD.



ALL DIMENSIONS IN INCHES

SPECIFICATION MOS/CV 2273/ISSUE 2.

AMENDMENT No. 1.

Page 2.

Test clause (e). Electronic Tuning (Mc/s) Max. Limit:-

Amend 40 to read 70.

Test clause (g). Electronic Tuning (Mc/s) Max. Limit:-

Amend 40 to read 70.

August 1953.

T.V.C. Office.
(for RRDE)

Z.4919.R.

SPECIFICATION CV.2273 (Issue 2)

Amendment 3

PROTOTYPE

DELETE K302 and enter VX9090

T.V.C. Office

December 1956 for R.R.E.

N.50689R