MINISTRY OF SUPPLY - DLRD(A)/RRE (South)

VALVE ELECTRONIC **CV 2164**

Specification M08(A)/CV2164 Issue 4 Dated 8. 6. 54. To be read in conjunction with K1001, excluding clause 5.3	SECURITY Specification: UNCLASSIFIED Valve: UNCLASSIFIED

Indicates a change

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)	-80 to -165	A
Min. RF Power Output	(mW)	15	
Mechanical Tuning Range	(Mc/s)	9320 to 9500	
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)	0.5	

MARKING

See K1001/4

BASE

International Octal

CONNECTIONS

Pin	Electrode
1	No Connection
2	Heater
3	Blank
4	Blank
5	Resonator
6	Blank
7	Heater-Cathode
8	No Connection
TC	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 10 mW over the whole band.

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

Z.6401.R.

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions				Test	Limits		No. Tested	Note
						Min.	Max.		
	Vh (V)	V Resonator (V)	V Reflector (V)	Frequency (Mc/s)					
a	6.3	-	-	-	Heater Current (A)	0.52	0.68	Note 1	
b	6.3	350	Adjust	At random point in band 9320-9500	RF Power Output (mW) Measured within 3 minutes of switching on all supplies Reflector Voltage (V)	12 -80	- -165	Note 1	 2
c	6.3	350	Adjust	9410 ± 20	Frequency Drift (Mc/s) Reflector Voltage (V) Beam Current (mA)	- -80 -	5 -165 44	Note 1	3 2
d	6.3	350	Adjust	9320	RF Power Output (mW) Reflector Voltage (V)	15 -80	- -165	100%	 2
e	6.3	350	Adjust	9320	Electronic Tuning (Mc/s) Measured at 3 db points	20	-	Note 1	
f	6.3	350	Adjust	9500	RF Power Output (mW) Reflector Voltage (V)	15 -80	- -165	100%	 2
g	6.3	350	Adjust	9500	Electronic Tuning (Mc/s) Measured at 3 db points	20	-	Note 1	
h	6.3	350	Adjust	9410 ± 20	Frequency Variation (Mc/s) When 2 Megohm resistor is inserted in series with reflector lead	-	4	Note 1	
j	6.3	350	Adjust. Value to be marked on valve.	9320-9500	Reflector Voltage (V) To give at least 10 mW power output over full frequency range	-80	-165	100%	
k	5.7	350	Adjust	9410 ± 20	RF Power Output (mW)	10	-	100%	
m	5.7	350	As for Test (k)	As for Test (k)	Decrease in Beam Current from the value in Test (c) Reflector Voltage (V)	- -80	30% -165	100%	 2

TESTS (Cont'd)

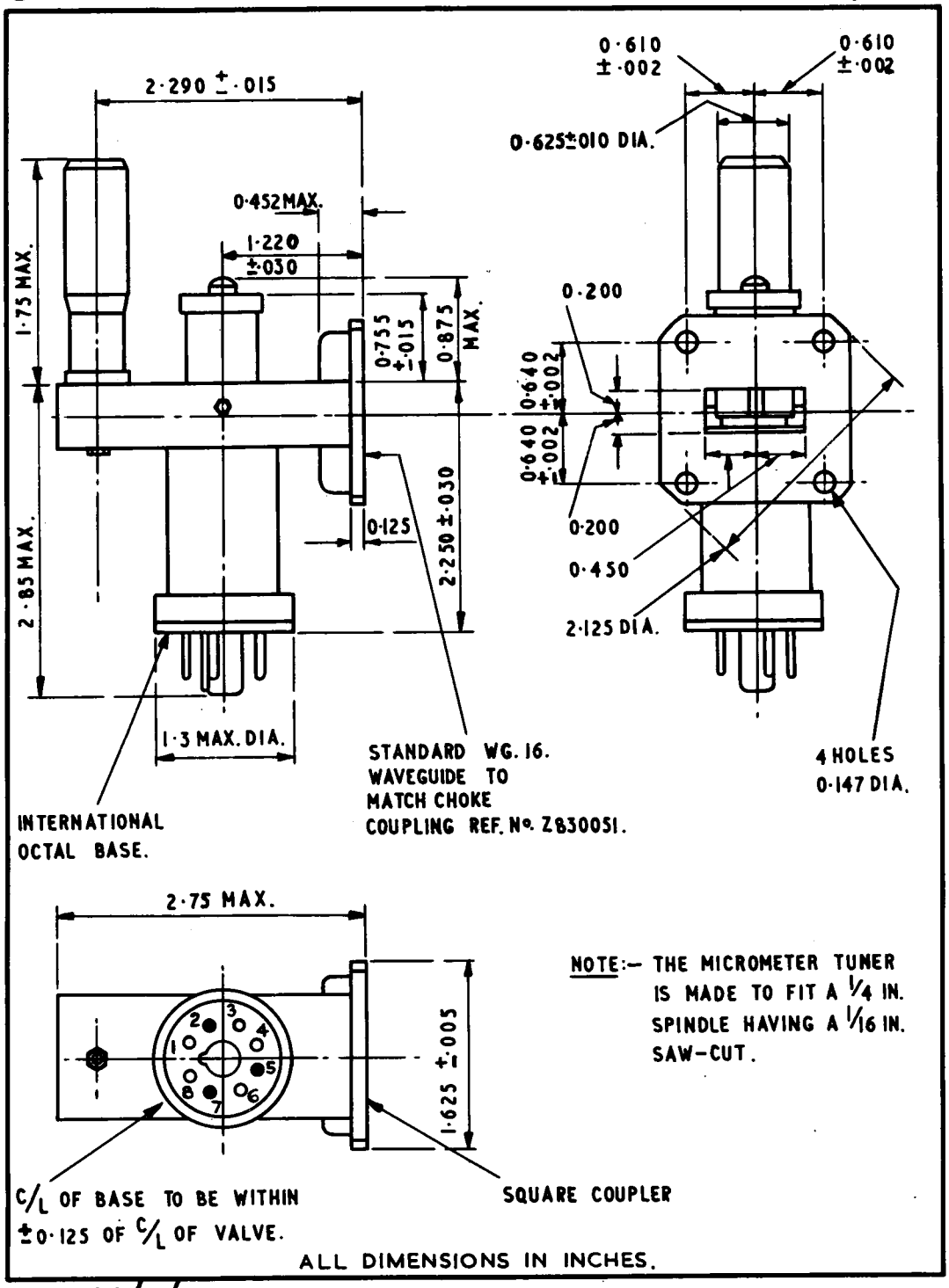
CV2164

NOTES

1. These tests to be performed on a sample batch of 6 valves per day or 10% of the day's production whichever is greater. If this sample batch passes these tests, then all valves will be accepted to these tests. If there are any rejects in the sample batch then all valves in the day's production will be tested.

2. Reflector voltages given correspond to the maximum power points of the reflector mode.

3. With the valve inserted into an approved test mount, the frequency drift shall be measured between 4 mins and 15 mins after switching on all supplies.


2·290 ± ·015
0·452MAX.
1·220 ±·030
1·75 MAX.
0·755 ±·015
0·875 MAX.
2·85 MAX.
0·125
2·250 ±·030
1·3 MAX. DIA.
INTERNATIONAL OCTAL BASE.
STANDARD WG. 16. WAVEGUIDE TO MATCH CHOKE COUPLING REF. Nº. ZB30051.
0·610 ±·002
0·610 ±·002
0·625±010 DIA.
0·200
0·640 ±·002
0·640 ±·002
0·200
0·450
2·125 DIA.
4 HOLES 0·147 DIA.
2·75 MAX.
1·625 ±·005
C/L OF BASE TO BE WITHIN ±0·125 OF C/L OF VALVE.
SQUARE COUPLER
NOTE:- THE MICROMETER TUNER IS MADE TO FIT A 1/4 IN. SPINDLE HAVING A 1/16 IN. SAW-CUT.
ALL DIMENSIONS IN INCHES.

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