MINISTRY OF SUPPLY - DLRD(A)/RRE/(South) VALVE ELECTRONIC **CV2282**

Specification MOS(A)/CV2282
Issue 1 Dated 7.6.55
To be read in conjunction with K1001 and BS.448

SECURITY	
Specification	Valve
UNCLASSIFIED	UNCLASSIFIED

TYPE OF VALVE - Velocity Modulated Oscillator
CATHODE - Indirectly-heated
PROTOTYPE - VX9042

MARKING
See K1001/4

RATING			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	0.565	
Max Resonator Voltage	(V)	400	
Max Resonator Dissipation	(W)	20	
Reflector Voltage Range	(V)	-140 to -220	A
Min RF Power Output	(mW)	12	
Mechanical Runing Range	(Mc/s)	8805 to 8885	
Min Electronic Tuning Range	(Mc/s)	25	
Nom Reflector Voltage Change to give 25 Mc/s electronic tuning	(V)	15	
Max Total Impedance in the reflector cathode circuit	(megohm)	0.5	

BASE
Octal
See BS.448 : B8-0

CONNECTIONS

Pin	Electrode
1	No connection
2	Heater
3	Pin omitted
4	Pin omitted
5	Resonator
6	Pin omitted
7	Heater and cathode
8	No connection
TC	Reflector

TOP CAP
CT1
See BS.448 : 6/1.1

DIMENSIONS
See Drawing on Page 4

MOUNTING POSITION
Any

NOTES

A. Each valve shall be marked with the value of 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 the cathode. If during AFC working there is any chance of the reflector voltage becoming equal to or more positive than that of the cathode a protective diode shall be used.

C. The reflector voltage shall be capable of varying ± 30 volts about the DC level in order to accomodate the total electronic tuning.

To be performed in addition to those applicable in K1001

Test Conditions - unless otherwise specified

Vh (V)	Vres (V)	Vref (V)
6.3	350	Adjusted to give max power output

	Test	Test Conditions	AQL %	Insp. Level	Sym-bol	Limits Min.	Limits Max.	Units
a	Heater Current			100%	Ih	0.52	0.61	A
b	Power Oscillation (1) 1. RF Power Output 2. Reflector Voltage	Note 1		100%	 Pout Vref	 12 -140	 - -220	 mW V
c	Power Oscillation (2) 1. RF Power Output 2. Reflector Voltage 3. Electronic Tuning	f = 8805 Mc/s Measured at 3 db points		100%	 Pout Vref Δf	 25 -140 25	 - -220 -	 mW V Mc/s
d	Power Oscillation (3) 1. RF Power Output 2. Reflector Voltage 3. Beam current dur-ing oscillation	f = 8845 ± 20 Mc/s		100%	 Pout Vref Ib	 25 -140 20	 - -220 44	 mW V mA
e	Power Oscillation (4) 1. RF Power Output 2. Reflector Voltage 3. Electronic Tuning	f = 8885 Mc/s Measured at 3 db points		100%	 Pout Vref Δf	 25 -140 25	 - -220 -	 mW V Mc/s
f	Power Oscillation (5) 1. RF Power Output 2. Reflector Voltage 3. Decrease in beam current during oscillation	Vh=5.7V for 2 mins min; f =8845 ± 20 Mc/s Note 2		100%	 Pout Vref Δ Ib	 10 -140 -	 - -220 30	 mW V %
g	RF Power Output	Note 3		100%	Pout	10	-	mW
h	Mechanical Tuning Range			100%	f	8805	8885	Mc/s
j	Thermal Factor Change in frequency during oscillation	f = 8845 ± 20 Mc/s Note 4		TA	TF	-0.02	-0.32	Mc/s°C

NOTES

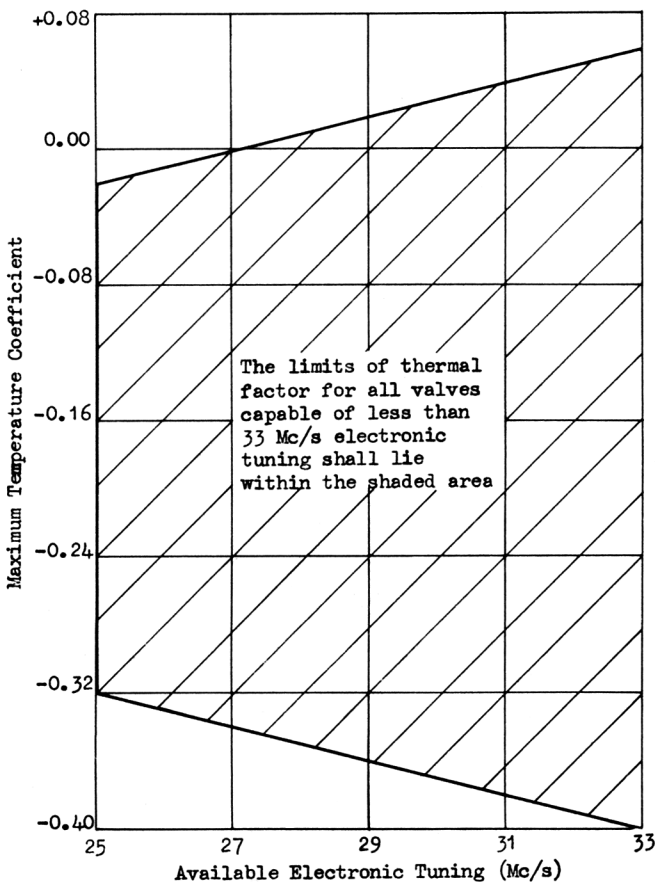
1. The power output shall be measured at a random point in the band 8805-8885 Mc/s within 3 minutes of switching on all supplies.

2. The beam current shall not have decreased by more than 30% from the value determined in Test (d).

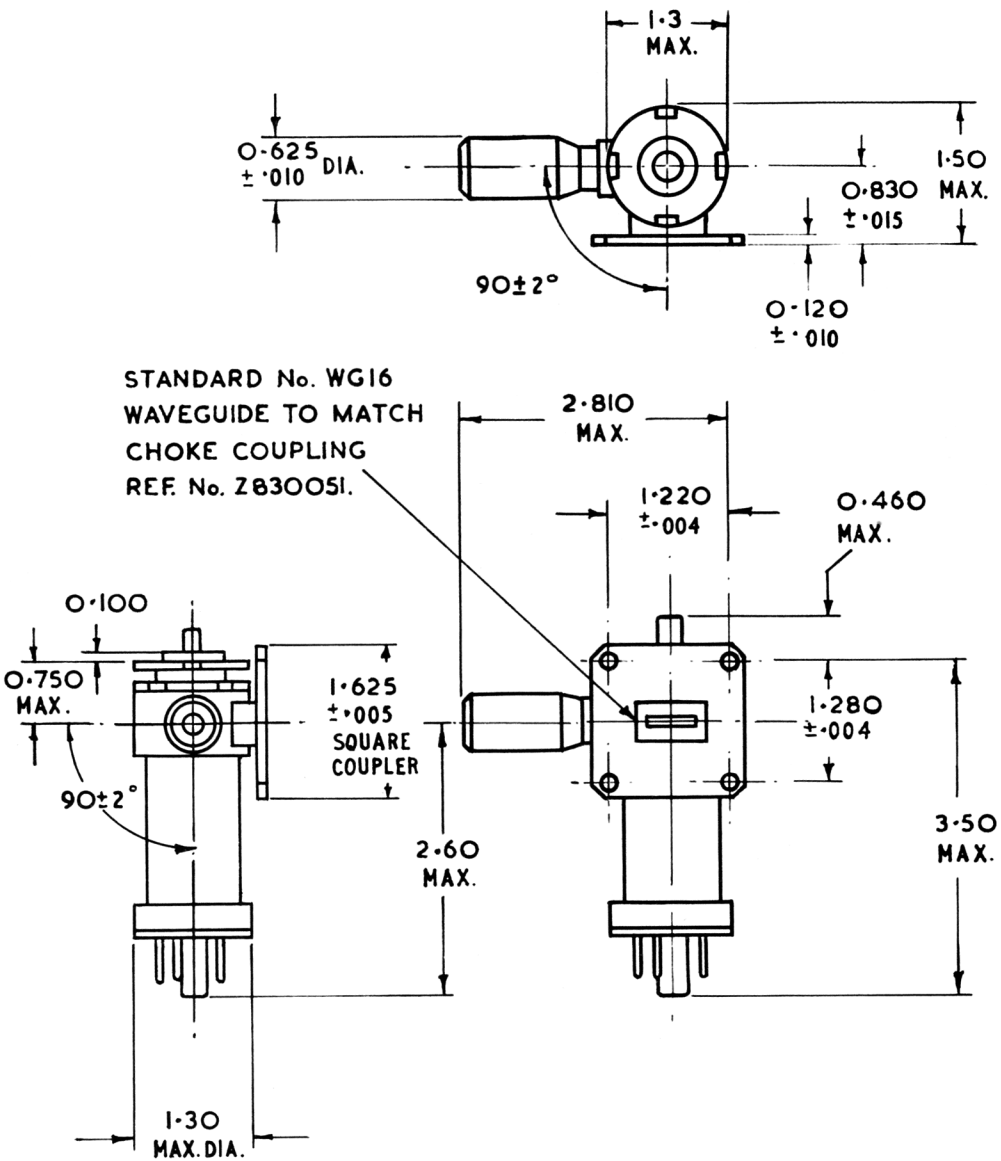
3. The power output shall be measured at a random point in the band 8805-8885 Mc/s. The reflector voltage shall be adjusted to that value marked on the valve.

4. All valves giving less than 33 Mc/s electronic tuning shall be tested for thermal factor and shall be found acceptable if their factors fall within the shaded area shown in the graph below.

   During this test the temperature shall be taken to be that of the resonator body. The test shall be performed within the ambient temperature range 0 to 100°C.



LIMITS OF ELECTRONIC TUNING AND THERMAL FACTOR



ALL DIMENSIONS IN INCHES.