

Specification MOSA/CV.2964 Issue 1 Dated 13.4.55 To be read in conjunction with BS448 BS1409 and K1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

—————> Indicates a change

TYPE OF VALVE - Transmitting Tetrode			<u>MARKING</u>	
CATHODE - Directly Heated			See K.1001/4	
ENVELOPE - Glass, unmetallised				
PROTOTYPE - 5D22				
<u>RATINGS</u>			<u>BASE</u>	
(All limiting values are absolute)			B.S.448/B5E	
			<u>CONNECTIONS</u>	
			Note	
			Pin	Electrode
Filament Voltage	(V)	5.0	1	f
Filament Current	(A)	14.1	2	g2
Max. Anode Voltage	(kV)	4	3	g1
Max. Screen Voltage	(V)	600	4	g2
Max. Anode Dissipation	(W)	250	5	f
Max. Screen Dissipation	(W)	35	T.C.	a
Max. Control Grid Dissipation	(W)	10		
Max. D.C. Control Grid Voltage	(V)	-500		
Max. D.C. Anode Current	(mA)	350		
Mutual Conductance	(mA/V)	4.0		
Inner Amplification Factor ($\mu_{g1, g2}$)		5.25		
Max. Anode Top Cap Temperature		170°C	A	
<u>CAPACITANCES (pF)</u>			<u>DIMENSIONS</u>	
C in (nom.)		12.6	See Drawing on Page 3	
C out (nom.)		4.4		
C _a , g ₁ (max.)		0.14		
<u>NOTES</u>				
A. Forced Air cooling is required at frequencies above 30 Mc/s. The temperature of the anode seal shall not exceed 170°C. The base seals shall be cooled by the circulation of at least 2 cubic feet of air per minute.				
B. Class C. Telegraphy.				

CV2964/1/1

To be performed in addition to those applicable in K.1001

Test Conditions					Test	Limits		No Tested	Note	
						Min.	Max.			
See K.1001/AIII					CAPACITANCES (pF)	10.70	14.50	6 per week		
Links to H.P.	Links to L.P.	Links to E								C in
3	1,2,4,5,	6,7,8,9,10, T.C.1,T.C.2								
a	T.C.1	1,2,4,5	3,6,7,8,9, 10,T.C.2			C out	3.70	5.10		
	T.C.1	3	1,2,4,5,6, 7,8,9,10, T.C.2			Ca, g1	-	0.14	T.A.	
	Vf	Va(kV)	Vg2	Vg1	Ia(mA)					
b	5.0	0	0	0	0	If (A)	13.5	14.7	100% or S	
c	6.0	See Note 1				g1 Primary Emission (μA)	-	500	100%	1
d	6.0	See Note 2		0	-	g2 Primary Emission (μA)	-	500	100%	2
e	5.0	2.5	500	Adjust	100	Vg1 (V)	-65	-95	100%	
f	5.0	2.5	500	Adjust	100	Ig1 (μA)	-	10	100%	
g	5.0	-	500	Adjust	-	μg1,g2	4.5	6.0	20 per week	3
h	5.0	Anode, g2 and g1 Strapped with 2.5 kV Peak applied				Peak Emission (A)	4.0	-	100%	
j	5.0	3.0	350	-	200	Power Output (W) Ig2 (mA)	350 50	- 100	20 per week	4
k	5.0	3.0	350	-	200	Power Output (W)	350	-	T.A.	5
<u>NOTES</u>										
<p>(1) With anode and g2 floating, the 50c/s A.C. volts applied to g1 through suitable rectifiers, shall be adjusted to heat the grid during the (+)ve half cycles and give a mean Ig1 = 200 mA D.C. The grid emission shall be measured during (-)ve half cycles. Test duration to be 15 seconds minimum.</p> <p>(2) With anode floating, the 50 c/s A.C. volts applied to g2 through suitable rectifiers shall be adjusted to heat the grid during the (+)ve half cycles and give a mean Ig2 = 170 mA D.C. The grid emission shall be measured during (-)ve half cycles. Test duration to be 15 seconds minimum.</p>										

NOTES (Cont'd)

- (3) Anode earthed, V_{g1} adjusted to give:

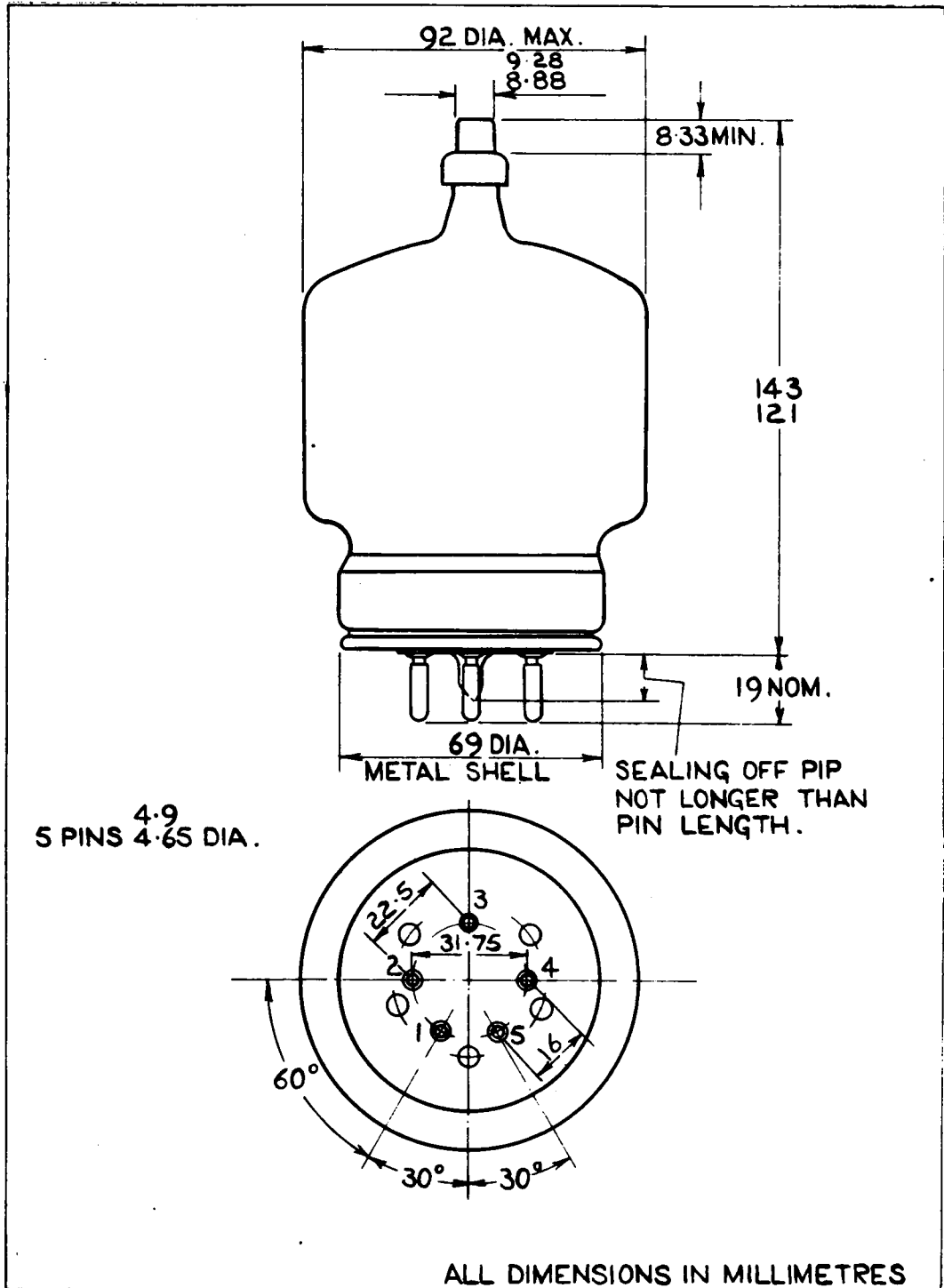
$$I_{g2} = 70 \text{ mA.}$$

- (4) Power oscillation test frequency = 15 Mc/s:

$$R_{g1} = 12,000 \text{ ohms.}$$

- (5) Power oscillation test frequency = 75 Mc/s:

$$R_{g1} = 12,000 \text{ ohms.}$$



CV2964/i/4