

Specification MOSA/CV.2131 Issue 6 Dated 29.5.56 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 CATHODE - Directly Heated ENVELOPE - Glass, unmetallised PROTOTYPE - QY4 - 250		<u>MARKING</u> See K.1001/4	
<u>RATINGS</u>		<u>BASE</u> E.S.448/B5F	
		<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	A,C	a
Max. Control Grid Dissipation (W)	10	A,C	
Max. D.C. Control Grid Voltage (V)	-500	A,C	
Max. D.C. Anode Current (mA)	350	A,C	
Mutual Conductance (mA/V)	4.0		
Inner Amplification Factor ($\mu g_1, g_2$)	5.25		
Max. Anode Top Cap Temperature	170°C	A,B	
<u>CAPACITANCES (pF)</u>		<u>DIMENSIONS</u>	
C in (nom.)	12.6	See Drawing on Page 3	
C out (nom.)	4.4		
Ca, g1 (max.)	0.14		
<u>NOTES</u>			
A. Absolute value. B. 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. C. Class C. Telegraphy.			

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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			C out					
T.C.1	1,2,4,5	3,6,7,8,9, 10,T.C.2				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)	If (A)	13.5	14.7	100% or S		
b	5.0	0	0	0						
c	6.0	See Note 1			g1 Primary (μA) Emission	-	500	100%	1	
d	6.0	See Note 2		0	-	g2 Primary (μA) Emission	-	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	- 100	20 per week	4
k	5.0	3.0	350	-	200	Power Output (W)	350	-	T.A.	5
<u>NOTES</u>										
(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.										
(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.										

NOTES (Cont'd)

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

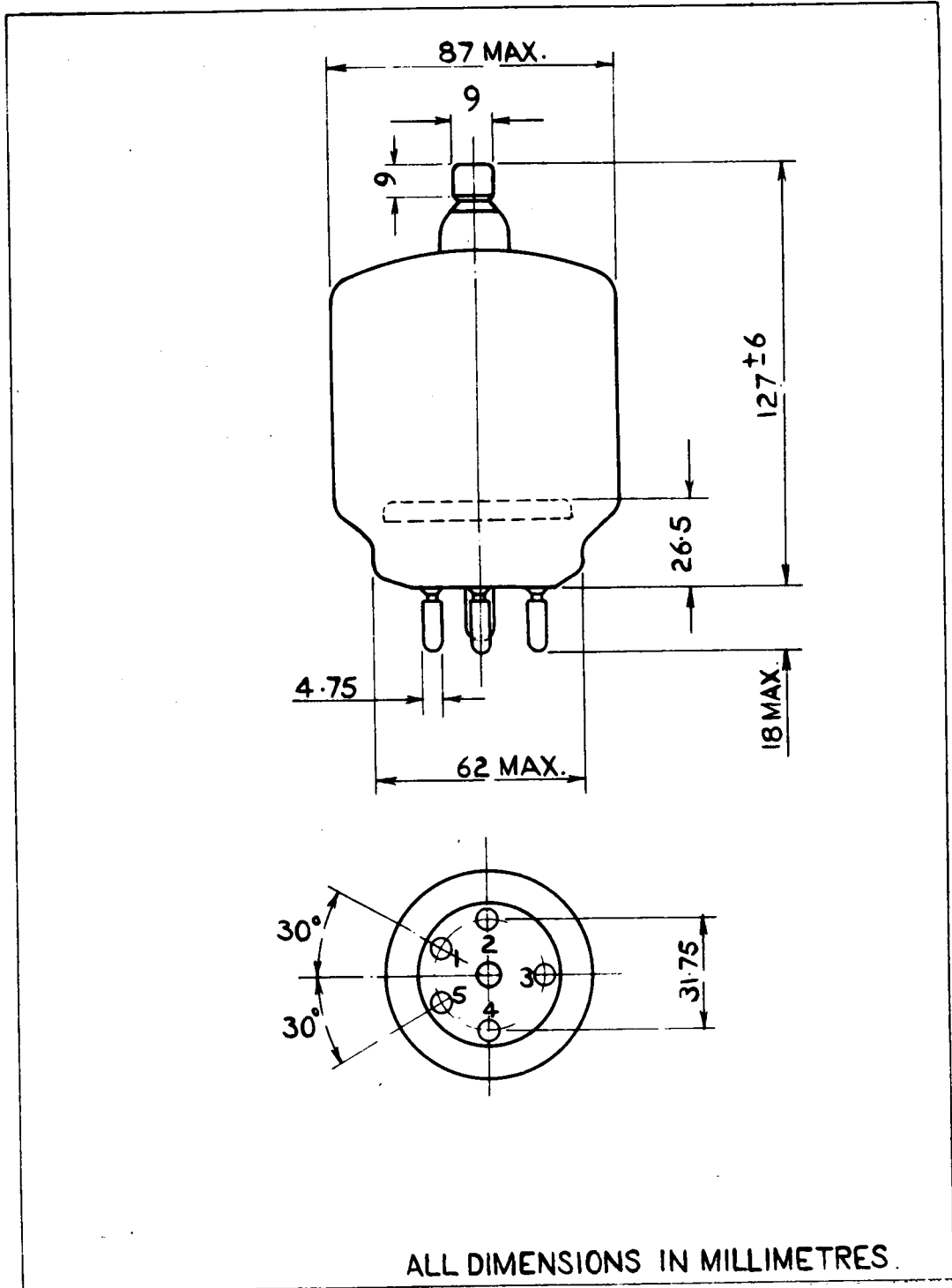
$I_{g2} = 70 \text{ mA.}$

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

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

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

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



ALL DIMENSIONS IN MILLIMETRES.

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