MINISTRY OF AVIATION - D.L.R.D./R.R.E.

VALVE ELECTRONIC **CV2479**

Specification MOA/CV2479 Issue 1A dated 25th July, 1963 To be used in conjunction with BS448, BS1409 and K1001, excluding clauses 5.2, 5.3, 5.5, 5.7, 5.9	SECURITY	
	Specification	Valve
	UNCLASSIFIED	UNCLASSIFIED

TYPE OF VALVE: Noise Tube, Gas Filled, Low Current

CATHODE: Indirectly heated

ENVELOPE: Glass

PROTOTYPE: VX1036

MARKING

See K1001/4

Cathode connection indicated by white spot on base

ABSOLUTE NON-SIMULTANEOUS RATINGS
(Not for inspection purposes)

			Note
Heater Voltage	(V)	6.3	
Heater Current	(A)	1.0	
Max. Striking Voltage (in mount)	(V)	1,150	C
Normal Voltage Drop across tube	(V)	50	A
Preferred Operating Current	(mA)	35	
Min. Operating Current	(mA)	25	
Max. Operating Current	(mA)	50	
Min. Series Resistance	(Ω)	1,500	
Nominal noise power available	(dB)	15.25	B
Nominal noise power output charge with current	(dB/mA)	0.03	
Useful frequency range	(Mc/s)	9,000 to 18,000	

BASE AND CONNECTIONS

See Drawing Page 4

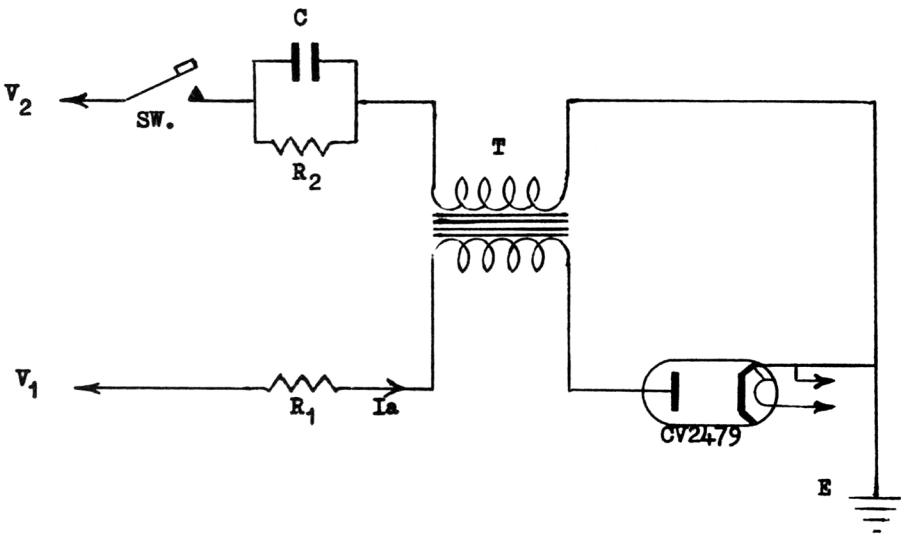
NOTES

A. The value quoted is that which is obtained with I_a = 35mA. In order to ensure adequate performance of the tube the circuit and [a]notes given on page 2 may be used. It is essential that the energy available for striking the tube exceeds the minimum value of 2×10^{-3} joules.

B. Given as a reference to thermal noise at 17°C. The figure quoted is that which is obtained with the tube fitted in a mount conforming to the dimensions given on Fig. 3, and which is terminated with a matched load.

C. In order to avoid the presence of High d.c. voltages a striking circuit as given in Fig. 1 may be used.

FIG 1



STRIKING CIRCUIT

NOTES

V1. This should have a value not less than 120 volts. The supply must not be inductive or striking may be difficult. If a relay winding is used in series with this supply, it must be damped or by-passed to prevent oscillation.

V2. This can be common with V1 if a suitable ratio is chosen for transformer T. If a higher voltage is available this will enable a lower ratio to be used for transformer T.

T. This transformer should be capable of producing a half sine-wave pulse with a base width of 20 μsecs. The transformer should have a step up ratio of $\frac{1500}{V2}$ on open circuit.

R1. This should be chosen to make Ia = 35 mA with a selected value of V1.

C. This determines the energy available for striking the tube and should have a value such that:-

$$W = \tfrac{1}{2} CV2^2 \text{ is not less than } 2 \times 10^{-3} \text{ joules}$$

R2. It is convenient to make CR2 = 1 sec approximately.

TESTS

To be performed in addition to those applicable in K1001

Test shall be performed in the specification order unless otherwise agreed with the inspecting authority.

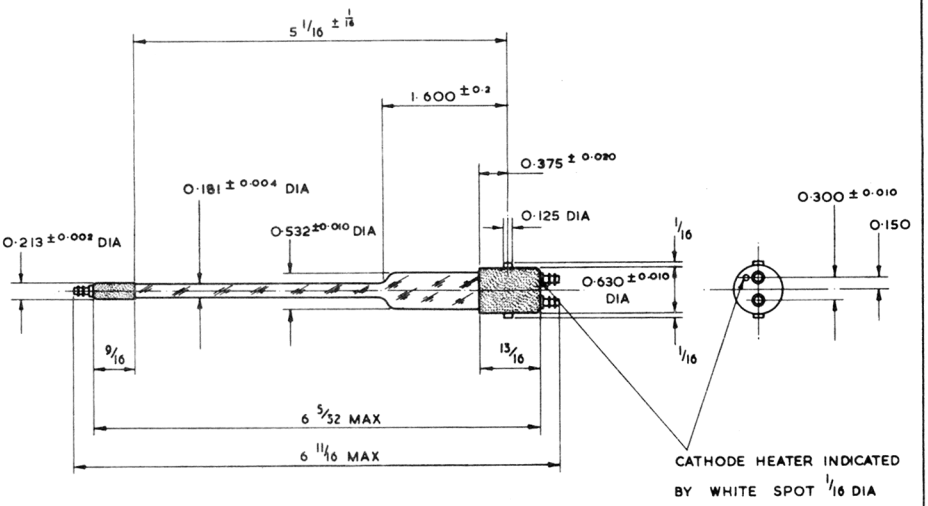
Test condition - unless otherwise specified
Vf = 6.3V Ia = 35 mA

K1001 Ref.	Test	Test Conditions	AQL %	Insp. level	Symbol	Limits		Units
						Min.	Max.	
	Filament Current	Note 1		100%	If	0.9	1.1	A
	v.s.w.r. (1)	F = 9375 ± 25 Mc/s Note 2		100%		—	1.06	Ratio
	v.s.w.r. (2)	F = Over the range 9025 to 9726 Mc/s Note 2		10%		—	1.25	Ratio
	Noise Output	Note 3		10%		15.0	15.5	dB

NOTES

1. The heater voltage should be applied 30 seconds before performing the test.
2. The diode is inserted in the approved 15° E-plane mount in No. WG16 waveguide which is terminated in a matched load, and the mount is screw tuned with diode struck to give a v.s.w.r. at 9375 Mc/s of less than 1.03.
3. The diode is inserted in the approved 15° E-plane mount in No. WG16 waveguide which is terminated in a matched load.

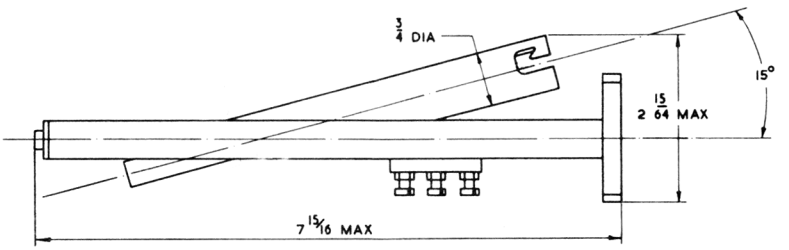
FIG. 2



NOISE DIODE OUTLINE DRAWING
(THIRD ANGLE PROJECTION)

DIMENSIONS IN INCHES

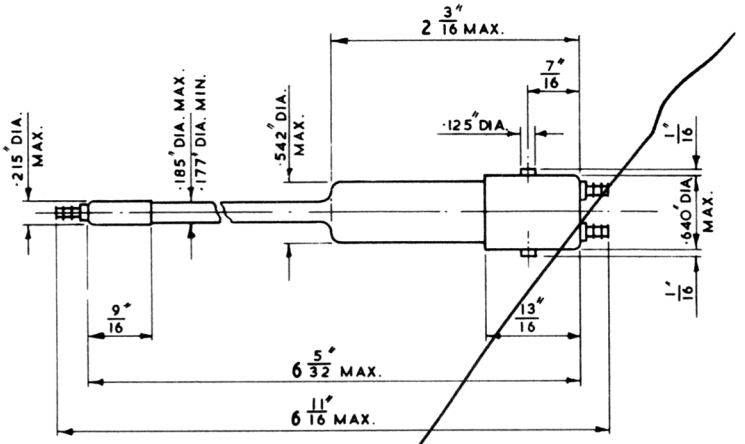
FIG. 3



OUTLINE DRAWING OF APPROVED MOUNT

DIMENSIONS IN INCHES

FIG 2



VALVE OUTLINE DRAWING

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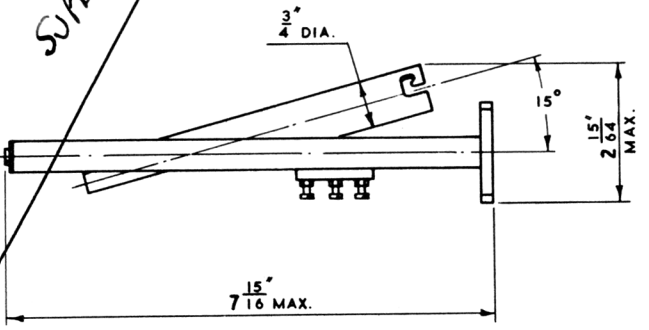
FIG 3



OUTLINE DRAWING OF APPROVED MOUNT

ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION MOA/CV2479, ISSUE 1B, DATED 19th July, 1964.

AMENDMENT NO. 1

Page 4 Cancel (but do not remove) existing Page 4 and substitute new Page 4, dated 1st October, 1964, attached hereto.

T.V.C. for R.R.E.

November, 1964.

NM.190472