ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION CV 2387

ISSUE 1. DATED 1.4.59

AMENDMENT NO.1

Page 2. Test Conditions.

Under this heading amend right-hand entry to Vh (V) 5.0

March, 1960

Royal Aircraft Establishment.

N.16435

MINISTRY OF SUPPLY, D.L.R.D./R.A.E.

VALVE ELECTRONIC **CV.2387**

SPECIFICATION M.O.S./CV.2387	SECURITY	
	SPECIFICATION	VALVE
Issue No. 1 Dated 1.4.59.		
To be read in conjunction with K.1001, BS.448 and BS.1409.	Unclassified	Unclassified

TYPE OF VALVE: Low Grid Current Electrometer Pentode.

CATHODE: Indirectly heated.

ENVELOPE: Glass.

PROTOTYPE: VX 8124,

MARKING

See K.1001/4.

BASE

BS.448/B8D/F/1.1
Note B

RATINGS

All limiting values are absolute.

			NOTES
Heater Voltage	(V)	5.0	A
Heater Current	(mA)	185	
Max. Operating Anode Voltage	(V)	100	
Max. Operating Screen Voltage	(V)	100	
Max. Cathode Current	(μA)	250	
Max. Heather-Cathode Voltage	(V)	±50	
Max. Bulb Temperature	(°C)	100	
Amplification Factor (μg1g2)		19	C
Mutual Conductance	(μA/V)	200	C
Max. Reverse Grid Current	(μμA)	50	B,D

CAPACITANCES (pF)

Cin (nom.)	3.8	
Cout (nom.)	4.4	
Cag (max.)	0.3	

CONNECTIONS

Lead	Electrode	
1	Grid	g1
2	Suppressor	g3
3	Heater	h
4	Anode	a
5	Screen	g2
6	Heater	h
7	Cathode	k
8	Anode	a

DIMENSIONS

See BS.448/B8D/F/2.1
Size Ref. No.2.

DIMENSIONS	MIN.	MAX.
A	29.0	32.0
B	-	38.1
C	9.3	10.16
Lead Length Note B.	38.1	

MOUNTING POSITION

Any

NOTES

A. This voltage must be maintained within 5%.

B. Care must be taken to avoid contamination of the base when handling these valves and particularly when soldering into equipment. The leads must not be soldered nearer that 5mm nor bent closer than 1.5mm from the seal.

C. Measured with Va = Vg2 = 50V; Ia = 75μA.

D. Measured under the test conditions in Note C. If the valves have not been operated for some days, it may be necessary to allow 20 minutes running at operating conditions before this limit is met. For optimum performance the valve should be screened from external light.

Z.18921.

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

TEST CONDITIONS: Unless otherwise stated.

Va (V)	Vg2 (V)	Vg3 (V)	Vh (V)
50	50	0	50

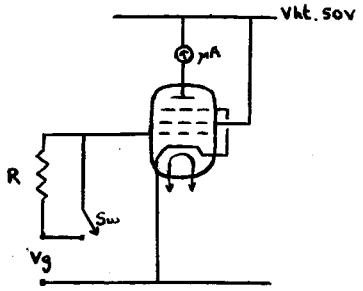
Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
GROUP A							
Heater Current		-	100%	Ih	170	200	mA
Negative Grid Voltage	Adjust Vg1 for Ia = 75μA.	-	100%	-Vg1	1.9	3.5	V
Reverse Grid Current	Adjust Vg1 for Ia = 75μA. Note 1.	-	100%	-Ig1	-	50	μμA
Mutual Conductance	Adjust Vg1 for Ia = 75μA.	-	100%	gm	130	270	μA/V
Screen Current	Adjust Vg1 for Ia = 75μA.	-	100%	Ig2	15	35	μA
GROUP B							
Capacitance	To be measured on a 1Mc/s R.F. bridge with valve mounted in a fully shielded socket. Valve screened. Note 2.	6.5	IC	Cin Cout Cag1	3.0 3.5 -	4.6 5.3 0.3	pF pF pF

NOTES

1. To be measured in an approved equipment. The conditions of Note 'D' on page 1 should be applied. A typical test circuit is shown below.

2. The connections for these tests shall be:-

TEST	HP	LP	E
Cin	1	2,3,5,6,7,9.	4,8.
Cout	4,8.	2,3,5,6,7,9.	1
Cag1	1	4,8.	2,3,5,6,7,9.



LOW GRID CURRENT MEASURING CIRCUIT

Operating Details

R is a known resistance (of the order of $10^{10}\Omega$)
With 'Sw' closed, adj. Vg for Ia = 75μA, note Vg.
Open 'Sw' readjust Vg for Ia = 75μA.
Then $\frac{\Delta Vg}{R} = -Ig1$.