SPECIFICATION CV.2742. ISSUE 2 dated 11.9.53

AMENDMENT NO.1

Page 2. Clause "a" Capacitance

Test Cge

AMEND minimum limit of 2.9pF to read 2.7pF

T.V.C. Office
for Director Royal Aircraft Establishment

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N.87743

MINISTRY OF SUPPLY - D.L.R.D.(A)/R.A.E.

VALVE ELECTRONIC **CV2742**

Specification MOSA/CV2742 Issue 2 Dated 11.9.1953 To be read in conjunction with K1001	SECURITY Specification: UNCLASSIFIED Valve: UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - H.F. Pentode
CATHODE - Directly Heated
ENVELOPE - Glass-unmetallised
PROTOTYPE - CV.1758 (selected)

MARKING

See K1001/4

RATINGS

			Note
Filament Voltage	(V)	1.4	
Filament Current	(mA)	50	
Max. Anode Voltage	(V)	120	
Max. Screen Voltage	(V)	100	
Mutual Conductance	(mA/V)	1.03	A
Anode Current	(mA)	4.5	A
Anode Impedance (approx.)	(MΩ)	0.17	A
Screen Current	(mA)	2.0	A
Max. Cathode Current	(mA)	6.5	

BASE

B.7.G

CONNECTIONS

Pin	Electrode
1	Filament -ve,G3,Sh.
2	Anode
3	Screen Grid
4	No connection
5	Filament -ve,G3,Sh.
6	Control Grid
7	Filament +ve

CAPACITANCES (pF)

		Note
Cag (max.)	0.01	B
Cae	7.5	B
Cge	3.6	B

DIMENSIONS

See K1001/A1/D4

Dimension	Min.	Max.
A mm.	-	54.01
B mm.	-	19.05
L mm.	-	47.75
F mm.	34.04	42.16

NOTES

A. Measured at Va = Vg2; = 90V, Vg1 = 0.

B. Measured with a close fitting shield connected to negative end of filament.

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

	Test Conditions				Test	Limits		No. Tested	Note
						Min.	Max.		
	See K1001/A111				Capacitances (pF)				
	Links to H.P.	Links to L.P.	Links to E.						
a	-	-	-		Cag	-	0.01	T.A.	1
	2	1,3,4,5,7.	6,8,9,10, T.C.1,T.C.2.		Cae	5.3	9.7	6 per Week	
	6	1,3,4,5,7.	2,8,9,10, T.C.1,T.C.2.		Cge	2.9	4.3		
	Vf	Va	Vg2	Vg1					
b	1.4	-	-	-	If (mA)	45	56	100% or S	
c	1.4	90	90	-1.0	Reverse Ig1 (μA)	-	1.0	100%	
d	1.4	90	90	0	Ig2 (mA)	1.0	3.0	100% or S	
e	1.4	90	90	0	Ia (mA)	2.9	6.1	100%	
f	1.4	90	90	-10	Ia tail (μA)	-	20	100%	←
g	1.4	90	90	0	gm (mA/V)	0.76	1.29	100% or S	
h	1.1	90	90	0	gm (mA/V)	0.69	-	100%	
j					Microphony (mW)	-	0.18	100%	2 ←

NOTES

1. Cag will be measured on the Western Electric Capacitance Bridge at 465 kc/s. Details of the bridge may be obtained from the Type Approving Authority, who will test preproduction valves in this apparatus if the manufacturer so desires.

2. Va = Vg2 = 135V D.C.; Ra = 1.0MΩ; Rg1 = 1.5MΩ; Rg2 = 4.7MΩ (by-passed with 0.1μF capacitor to negative Filament).

   The above specified conditions shall be applied to the valve under test, the tests shall be performed in an acoustic chamber constructed to drawing 182 JAN with an RCA Victor dynamic speaker MI-6234, or an approved equivalent make.

   The anode of the valve under test shall be coupled through a 0.1μF capacitor to an audio amplifier having approx.: 100,000 ohms input resistance and a response characteristic between 60 and 5,000 cycles, flat within ± 2.0 db of the 400 cycle response, with a resistor load substituted for the speaker.

The power amplifier shall be capable of delivering 5 watts with less than 10% distortion (Set amplifier gain for 50 mW output with an applied signal voltage of 200 mV A.C.)

The speaker shall be coupled to the output of the amplifier so as to present rated load to the amplifier. A VU type meter with an attenuator shall be bridged across a suitable tap on the output of the amplifier. The VU meter may have the dial calibrated in electrical or arbitrary units, the attenuator must be designed to retain the ballistic characteristics specified for the VU meter. The calibrated points used for setting the amplifier gain and as rejection points shall be determined for each test set on the basis of the power in the resistor load only. At 400 cycles and 50 milliwatts the resistor shall have been adjusted to the same impedance as the voice coil for which it is substituted.

The amplifier gain will be adjusted (without the valve in the "test" socket) to give the specified output with the specified calibration voltage at 400 cycles applied to the anode terminal of the valve "test" socket. The calibrating voltage will be removed and the valve under test inserted. When operating under the above conditions no "objectionable noise" or microphonism shall be evident either with the valve at rest or when it is tapped. Objectionable noise or microphonism shall be defined as:-

(a) Background noise, sustained microphonics, or oscillation over 2 seconds in duration having greater than $\frac{1}{2}$ milliwatt output power level.

(b) Clicks or scratchy noises of any sort.