ELECTRONIC VALVE SPECIFICATION

CV.2237 Issue 4 dated 1.5.57

AMENDMENT NO.1

Page A Base

Delete:- See Appendix I to CV.2237

Dimensions

Delete:- See Appendix I to CV.2237

Remove and destroy Appendix I

December 1961 Signals Radio Development Establishment (7725)

ELECTRONIC VALVE SPECIFICATION

CV.4094 Issue 1 Dated 8.1.59

AMENDMENT NO. 3

Page 1 Base

Delete:- See Appendix 1 to CV.2237

Dimensions

Delete:- See Appendix 1 to CV.2237

Signals Radio Development Establishment

JANUARY, 1962.
(8533)

VALVE ELECTRONIC **CV2237**

MINISTRY OF SUPPLY (S.R.D.E.)

→ Specification MOS/CV2237 incorporating MIL-E-1/20B Issue 4 Dated 1.5.57 To be read in conjunction with K1006	SECURITY Specification: Unclassified	Valve: Unclassified

→ Indicates a change

TYPE OF VALVE:- R.F. Pentode Sharp Cut-off CATHODE:- Directly Heated ENVELOPE:- Glass, Metallised PROTOTYPE:- 1AD4.	MARKING See K1001/4 except that the valve shall only be marked with the CV No., factory and date code, and "1AD4".

RATING		Note
Filament Voltage (V)	1.25	
Filament Current (mA)	100	
Max. Anode Voltage (V)	100	A
Max. Screen Voltage (V)	100	A
Anode Current (mA)	3	B
Screen Current (mA)	0.9	B
Mutual Conductance (mA/V)	2.0	B
Max. Cathode Current (mA)	7.0	A

BASE See App. I to CV2237
BS448/B5G/F
(In line - lead sub-miniature)

CONNECTIONS

Pin	Electrode
1	p, red dot
2	g2
3	-f, 1g3, Sd
4	g1
5	+f, 2g3
	See Note C

CAPACITANCE (pF)	
C_{g1p} (max.)	0.01
C_{out} (nom.)	4.0
C_{in} (nom.)	4.0

DIMENSIONS See App.I to CV2237
See BS448/B5G/F
Size reference No. 1

DIMENSIONS (Inches)	MIN.	MAX.
A. Overall length	-	1.502
Diameter		
B minor	-	0.286
C major	-	0.386
Lead length	1.5	-

MOUNTING POSITION
Any

NOTES

A. Absolute maximum or minimum values.
B. Measured at Va = Vg2 = 45 Vg1 = 0
C. Grid 3 comprises two separate deflector plates, one of which is connected to pin 3 and the other to pin 5.

CV2237

MIL-E-1/20B
26 December 1950
SUPERSEDING
MIL-E-1/20A
9 July 1953

INDIVIDUAL MILITARY SPECIFICATION SHEET

ELECTRON TUBE, RECEIVING, RF SHARP CUTOFF PENTODE

JAN-1AD4

This specification sheet forms a part of the latest issue of Military Specification MIL-E-1.

Description: RF Sharp Cutoff Pentode

Ratings:	Ef Vdc	Ec1 Vdc	Ec2 Vdc	Eb Vdc	Rgl Meg	Ik mAdc	Alt ft
Absolute Maximum:	1.25±20%	—	100	100	—	7.0	10,000
Test Cond.:	1.25	0	45	45	2	—	—

*Height: Max. 1.50 in.
**Base: Flat press (0.016 in. tinned flexible leads.
Length: 1.50 in. min; Spacing: .050 in. c/c)

*Diameter: Major 0.385 in. max.
Minor 0.285 in. max.

Pin No.:	1	2	3	4	5
Element:	p	g2	-f	gl	ff
	Red Dot		1g3 sd		2g3 Note 1

**Cathode: Coated Filament
**Envelope: T-2x3 (8-8) with Metallic Shield Coating

For miscellaneous requirements, see Paragraph 3.3, Inspection Instructions for Electron Tubes.

Ref.	Test	Conditions		Min.	Max.	
3.1	Qualification Approval:	Required for JAN Marking				
4.9.18.1.1	Carton Drop:	(d) Package Group 1; Carton Size C				
4.9.5.3	†Subminiature Lead Fatigue:			3	—	arcs
4.9.19.1	*Vibration:	Rp=10,000	Ep:	—	200	mVac
—	**Filament Plate Short:	Note 2				
4.10.8	*Filament Current:		If:	88	112	mA
→ 4.10.6.1	† Grid Current:	Eb=Ec2=55Vdc; Ec1=-1.0Vdc	Ic1:	0	-0.5	uAdc
4.10.4.1	Plate Current:		Ib:	1.9	4.1	mAdc
4.10.4.3	*Screen Grid Current:		Ic2:	0.5	1.3	mAdc
4.10.9	† Transconductance(1):	Ef=1.0Vdc	Sm:	1200	2500	umhos
4.10.9	*Transconductance(2):		Sm:	1500	2500	umhos
4.10.9	†Transconductance(3):	Ef=1.0Vdc; Take reading after 15 minutes	Sm:	1200	2500	umhos
4.10.10	*Plate Resistance:		Rp:	0.2	—	Meg
4.10.3.1	RF Noise:	Esig=30mVac				
4.10.14	*Capacitance:		Cgp:	—	0.01	uuf
			Cin:	3.0	5.0	uuf
			Cout	3.0	5.0	uuf

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Ref.	Test	Conditions		Min.	Max.	
4.11	Life Test:	Ef=1.25V;Rg1=5.0Meg: Group A	t:	500	—	hrs
4.11.4	Life Test End Point:	Transconductance(2)	Sm:	1200	—	umhos

Note 1: Grid 3 is composed of two separate deflector plates, one of which is connected to pin 3 and the other to pin 5.

Note 2: Raise Ef until filament opens. Test for filament to plate short only. After performance of the filament burn-out test, if the short circuit shall pass in excess of five times the rated filament current without burning out the short circuit, the tube shall be deemed a failure.

This test shall be performed by a Service Laboratory on three tubes, which shall be in addition to the required number of qualification approval samples. Manufacturer's data are not required for this test.

Note 3: Referenced specification shall be of the issue in effect on the date of invitation for bid.