

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

Specification MOS(A)/CV2390 incorporating MIL-E-1/108		<u>SECURITY</u>	
Issue 2	Dated 19.1.57	<u>Specification</u>	<u>Valve</u>
To be read in conjunction with B.S. 448, B.S. 1409 and K.1006		UNCLASSIFIED	UNCLASSIFIED

TYPE OF VALVE - Power Amplifier Pentode				<u>MARKING</u> See K.1001/4 Additional marking:- 3A4														
CATHODE - Directly heated																		
ENVELOPE - Glass unmetallised																		
PROTOTYPE - 3A4																		
<u>RATING</u>			Note	<u>BASE</u> B.S.448/B7G (Miniature Button 7 Pin)														
Filament Voltage (series)	(V)	2.8	A A A A A C C	<u>CONNECTIONS</u>														
Filament Current (series)	(mA)	100		Pin	Electrode													
Filament Voltage (parallel)	(V)	1.4																
Filament Current (parallel)	(mA)	200																
Max. Anode Voltage	(V)	165		1	f Note B													
Max. Screen Voltage	(V)	150		2	a													
Max. Anode Dissipation	(W)	2.2		3	g2													
Max. Screen Dissipation	(W)	1.0		4	g1													
Max. Cathode Current	(mA)	27		5	f and g3 Note B													
Mutual Conductance	(mA/V)	2.0		6	a													
Anode Impedance	(MΩ)	0.1	C	7	f(+)													
<u>CAPACITANCES (pF)</u>				<u>DIMENSIONS</u> See B.S.448/B7G/2.1 Size Ref. No. 2														
C in (nom)		4.8	D	<table><tr><td>Dimensions (mm)</td><td>Min.</td><td>Max.</td></tr><tr><td>A seated height</td><td>-</td><td>47.5</td></tr><tr><td>C diameter</td><td>16.0</td><td>19.0</td></tr><tr><td>D overall length</td><td>-</td><td>54.5</td></tr></table>			Dimensions (mm)	Min.	Max.	A seated height	-	47.5	C diameter	16.0	19.0	D overall length	-	54.5
Dimensions (mm)	Min.	Max.																
A seated height	-	47.5																
C diameter	16.0	19.0																
D overall length	-	54.5																
C out (nom)		4.2	D															
C a, g1 (max)		0.35	D	<u>MOUNTING POSITION</u> Any														
<u>NOTES</u>																		
A. Absolute value.																		
B. Pin 1 is filament negative for $V_f = 2.8V$. Pin 5 is filament negative for $V_f = 1.4V$.																		
C. At $V_a = 150V$; $V_{g2} = 90V$; $V_{g1} = -8.4V$. ($I_a = 13.3\text{ mA}$, $I_{g2} = 2.3\text{ mA}$)																		
D. Measured with valve unscreened.																		

CV2390

JAN-3A4

Ratings: Ef Eb Ec1 Ec2 Fp Fg2 Ik Alt.
Absolute V Vdc Vdc Vdc W W mAdc ft.
Maximum: 1.4 or 2.8 \pm 15% 165 ---- 150 2.2 1.0 27 10,000

Test Conditions: 1.4 150 -8.4 90 --- --- ---

**Height: 2-1/8 in. max.

*Diameter: 3/4 in. max.

**Base: Miniature Button 7-Pin, 57-1

**Pin No.: 1 2 3 4 5 6 7
Element: -f p g2 g1 g3 p f
fct(-par)

**Cathode: Coated Filament
**Envelope: T-5-1/2 (6-2)

Ref.	Test	Conditions	Min.	Max.
3.1	Qualification Approval:	Required for JAN Marking		
4.9.18.1.1 F-6a(3b)	Carton Drop:	(d) Package Group 1; Carton Size B		
4.9.19.1	*Vibration:	Rp=2000	Ep: ---	500 mVac
4.10.8 F-6i	*Filament Current:		If: 180	220 mAdc
4.10.6.1 F-6g(1)	† Grid Current:		Ic1: 0	-1.0 uAdc
4.10.4.1 F-6f(1)	Plate Current(1):		Ib: 9.2	17.4 mAdc
4.10.4.1 F-6f(1)	† Plate Current(2):	Ef=1.1Vdc; Note 2	Ib: 16	--- mAdc
4.10.4.3 F-6f(3)	*Screen Grid Current:		Ic2: 1.3	3.3 mAdc
4.10.9 F-6j	*Transconductance:		Sm: 1670	2450 umhos
4.10.2.2 F-6d(2)	*Power Oscillation:	F=50Mc; Eb=150Vdc; Ec2=135 Vdc; Ib=20mAdc; Ic1=0.13mAdc; Rg1=0.2Meg; Ef=1.4Vdc; Note 1	Po: 0.85	--- W
4.10.16.1 F-6r(1)	*Power Output:	Esig=6.0Vac; Rp=8000	Po: 550	--- mW
4.10.3.2 F-6e(2)	AF Noise	Esig=750Vac; Rp=2000; Note 3	EB: ---	17 VU
4.10.14 F-6p	*Capacitance	Without Shield Without Shield Without Shield	Cg1p: --- Cin: 3.9 Cout: 3.0	0.35 uuf 5.7 uuf 5.4 uuf
4.11 F-4	Life Test:	Group A; Ef=1.4Vac or Vdc	t: 500	--- hrs.
4.11.4 F-4b	Life Test End Point:	Transconductance or Power Output	Sm: 1310 Po: 350	--- umhos --- mW

APPROVED 30 March 1953 REVISED

CUSTODIANS:
Army-Signal Corps
Navy-Bureau of Ships
Air Force

PROCUREMENT SPECIFICATION
MIL-E-1

SPECIFICATION SHEET

POWER AMPLIFIER FEMTODE,
RECEIVING

3A4

MIL-E-1/108

SHEET 1 OF 2

No Spec.!

SPECIFICATION CV.2390 ISSUE 1

AMENDMENT NO. 1

TOP BOX

This specification, sent out as Issue 2, should read:-

Issue 1 dated 19.1.57

The top line should read - Specification MOS(A)/CV.2390_____

NOTE TO DESIGNERS

CV.2390 (Issue 1) supersedes CV.2300 (Issue 1, or Issue 2 if held).

CV.2300 (Issue 3) defines a selected valve for maintenance of existing equipment and is not circulated to E.V.S. C & D holders. Please destroy the specification (Issue 1 or 2) in the C & D Books.

March, 1957
N.87380.R

T.V.C. Office