

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

Specification MOS/CV820/Issue 3 Dated:- 6.2.50. To be read in conjunction with K1001	<u>SECURITY</u> Specification Restricted	Valve Unclassified
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→ indicates a change

<u>TYPE OF VALVE:-</u> Power amplifier pentode				<u>MARKING</u> See K1001/4 Additional marking:- 3S4		
<u>CATHODE:-</u> Directly heated						
<u>ENVELOPE:-</u> Glass-unmetallised						
<u>PROTOTYPE:-</u> 3S4						
				<u>PACKAGING</u> See K1005		
<u>RATING</u>				<u>BASE</u> B7G		
				Note		
Filament voltage (series)	(V)	2.8	A	Pin	Electrode	
Filament current (series)	(mA)	50		1	F-ve	Note B
Filament voltage (parallel)	(V)	1.4		2	Anode	
Filament current (parallel)	(mA)	100		3	Control grid	
Max. anode voltage	(V)	100		4	Screen grid	
Max. screen voltage	(V)	75		5	F-ve, G ₃ , C.T.	Note B
Mutual conductance	(mA/V)	1.5		6	Anode	
Anode impedance (approx.)	(MΩ)	0.1		7	F+ve	
Anode current	(mA)	7.4		<u>DIMENSIONS</u> See K1001/AI/D4.		
Screen current	(mA)	1.4				
Max. cathode current	(mA)	13.0				
<u>NOTES</u>						
A. Measured at $V_a = 90$, $V_{g2} = 67.5$, $V_{g1} = -7$						
B. Pin 1 is F-ve for $V_f = 2.8v$, Pin 5 is F-ve for $V_f = 1.4v$, when Pins 1 and 7 are F+ve						

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions				Test	Limits		No. Tested
						Min.	Max.	
a	Vf	Va	Vg2	Vg1	If (mA)	88	112	100% or S
	1.4	-	-	-				
b	1.4	90	67.5	-7	Rev. Ig (μ A)	-	1.0	100%
c	1.4	90	67.5	-7	I _{cs} (mA)	5.1	9.7	100%
d	1.4	90	67.5	-7	I _{g2} (mA)	0.85	2.1	100% or S
e	1.4	90	67.5	-7	g _m (mA/V)	1.3	1.85	100% or S
f	1.1	90	67.5	0	I _a (mA) (Note 1)	12	-	100%
g	1.4	90	67.5	-16.5	I _a (mA) (cut-off)	-	300	100% or S

NOTES

1. This is a snap test.

DATA SHEET

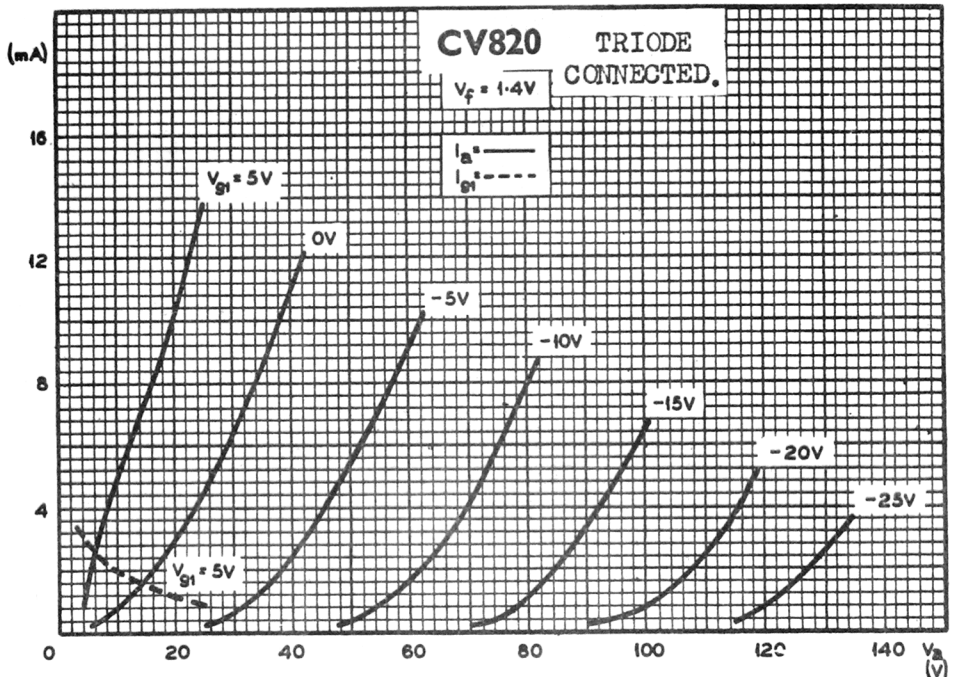
Valve Electronic Type CV 820

TYPICAL OPERATING CONDITIONS

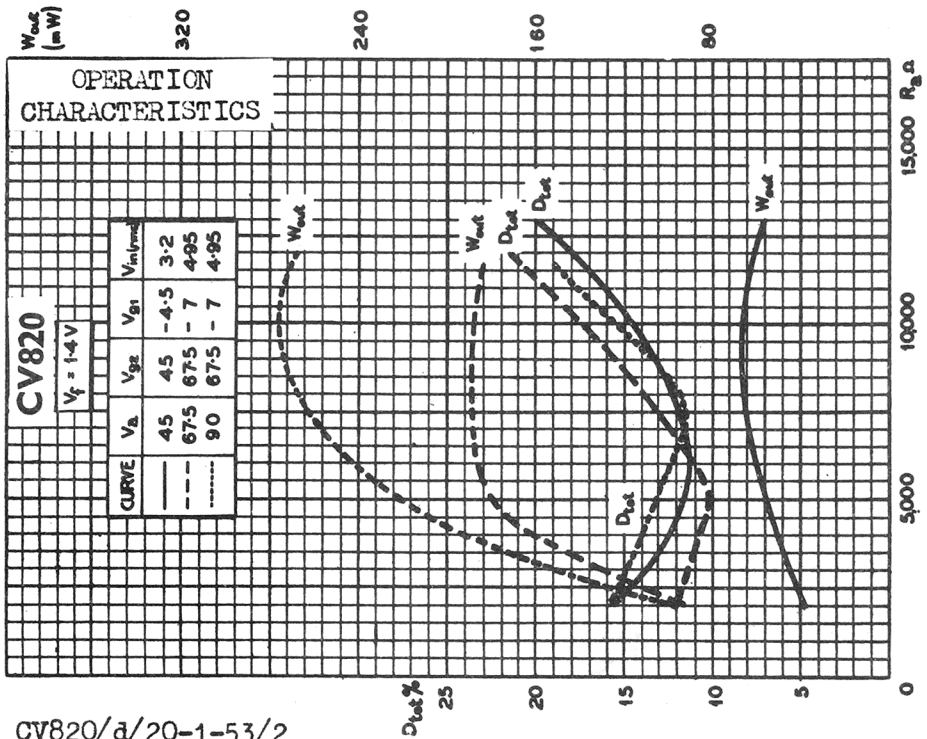
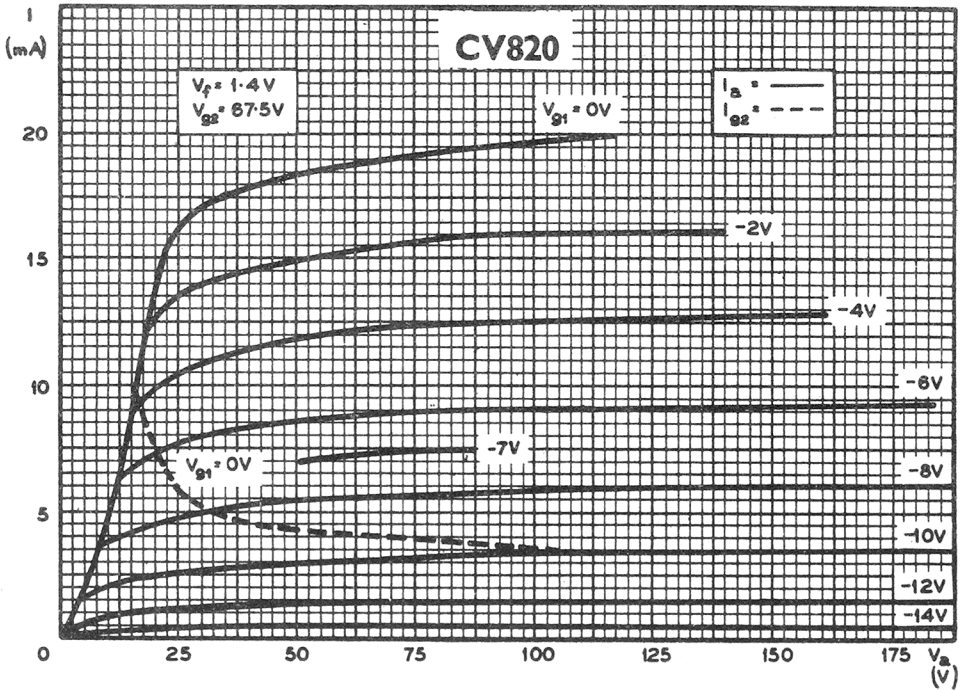
As Class A1 Audio Frequency Amplifier

	Series Filaments		Parallel Filaments		
Anode Voltage	67.5	90	67.5	90	Volts
Screen (G2) Voltage	67.5	67.5	67.5	67.5	Volts
Grid (G1) Voltage	-7	-7	-7	-7	Volts
Peak Grid Drive Voltage	7.0	7.0	7.0	7.0	Volts
Anode Current (zero signal)	6.0	6.1	7.2	7.4	mA
Screen (G2) Current (zero signal)	1.2	1.1	1.5	1.4	mA
Anode Impedance	0.1	0.1	0.1	0.1	Meg.
Mutual Conductance	1.4	1.42	1.55	1.57	mA/V
Optimum Load Resistance	5,000	8,000	5,000	8,000	ohms
Power Output	160	235	180	270	mW
Total Distortion	12	13	10	12	%

Note: When used with series filament connection, a resistor must be connected between pins 1 and 5 to balance the voltages in the two sections of the filament.



DATA SHEET



CV820/a/20-1-53/2