

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION MOS/CV4082, ISSUE 1A DATED 1ST JUNE 1960
AMENDMENT NO.1

- (i) Page 1. Specification Title: Amend "Specification MOS/CV4082"
to read "MOA/CV4082".
- (ii) Page 4. NOTES: Amend Note 1 to read as follows:-

1. Valve to be driven with 2μ second pulse at p.r.f. 1000 c.p.s. so that the grid voltage rises to 50V positive (max) during pulse. R.L. to be 2,200 ohms $\pm 5\%$.

The load circuit should include some source inductance which together with the circuit damping should be chosen so that the peak pulse E.H.T. overshoot is equal to half the load pulse voltage. The E.H.T. storage capacity, fed from a high impedance supply should be 0.05 μ F. Duration of test, 2 minutes. During the second minute the valve shall be sensibly free from flashing as shown by disturbance of the current waveform displayed on an oscilloscope.

January, 1965

T.V.C. for R.R.E.

(253614)

Specification NOS/CV4082 Issue 1A dated 1st June, 1960. To be read in conjunction with K1001 B.S.448 and B.S.1409	<u>SECURITY</u>	
	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified

TYPE OF VALVE - Pulse modulator tetrode CATHODE - Indirectly heated ENVELOPE - Glass PROTOTYPE - CV2231, VX3517	<u>MARKING</u> See K1001/4
	<u>BASE</u> B.S.448/B8-0/1.1

<u>RATINGS</u> Heater Voltage (V) 6.3 Heater Current (A) 1.32 Max. Anode Voltage (DC) (KV) 6.0 Max. Anode Voltage (Pulse) (KV) 8.0 Max. Screen Voltage (DC) (V) 800 Max. Anode Dissipation (W) 15 Max. Screen Dissipation (W) 3.5 Max. Cathode Current (Pulse) (A) 10.0 Max. Cathode Current (DC) (mA) 120 Max. Anode current (Pulse) (A) 7.5 Max. peak heater cathode voltage (V) ± 150 Max. Grid 1/Cathode voltage (V) ± 200 Max. Grid 1 dissipation (W) 0.5 Max. Bulb Temperature (C) 240 Inner Amplification Factor u(g1-g2) 7.5 Max. Shock (short duration) (g) 800 Max. Accn. (continuous) (g) 2.5	Note	Pin Electrode 1 Int. Conn. IC 2 Heater h 3 Int. Conn. IC 4 Screen Grid g2 5 Control Grid g1 6 Int. Conn. IC 7 Heater h 8 Cathode and base shell kS T.C. Anode a
	A	
<u>CAPACITANCES (pF) (note B)</u> Ca, g1 (nom) pF 0.75 C in (nom) pF 14 C out (Nom) pF 8.5		Dimension (mm) Min. Max. B Diameter - 34 A Overall Length - 100 L Seated Length - 85
		<u>TOP CAP</u> B.S.448/CT1
		<u>MOUNTING POSITION</u> Any

<u>NOTES</u>	
A.	The temperature over the top 15 mm of the bulb to be not greater than 150 C.
B.	Measured on 1Mc/s bridge in fully screened holder. No shield. All I.C. connections left floating.

To be performed in addition to those applicable in K1001 and in the specified order unless otherwise agreed with the Inspecting Authority.

TEST CONDITIONS - unless otherwise stated									
		Vh(V) 6.3	Va(V) 150	Vg2(V) 150	Ia(mA) 50				
K1001	TEST	TEST CONDITIONS	AQL %	Insp. Level	Sym- bol	LIMITS			UNITS
						Min.	Begey	Max.	
7.1	Glass Strain	No Voltages	6.5	I					
5.2	<u>GROUP A</u>								
	Insulation	Vg1-all = -100V Vg2-111 = -300V		100%	R	100	-	-	M
	Negative Grid Current	Rg1 = 500k max.		100%	Ig1	-	-	2.5	µA
	Peak Anode Current	Va = 7kV Vg2 = 600V Vg1 = -160V Note 1.		100%	Ia. pk	2.0	-	-	A
	<u>GROUP B</u>	Overall AQL	2.5						
	Heater Current	Vhk = ± 100V	0.65	II	Ih	1.17	-	1.47	A
	Heater-Cathode Leakage Current		0.65	II	Ihk	-	-	40	µA
	Negative Grid Voltage		0.65	II	Vg1	10.5	-	16.5	V
	Screen Current		0.65	II	Ig2	-	-	9.0	mA
	Mutual Conductance		0.65	II	gm	6.0	-	10.0	mA/V
	<u>GROUP C</u>	Overall AQL	6.5						
	Amplification Factor		2.5	I	Ag1-g2	6.0	-	10.0	
	Anode Current	Vg1 = -30V	2.5	I	Ia	-	-	600	µA
	High Voltage Tail Test	Va = 7kV Vg2 = 150V Vg1 = -80V	2.5	I	Ia	-	-	300	µA
	Vibration Noise Emission	Note 4	2.5	I	VaAC	-	-	75	mV
		A + g2 + g1 strapped Va pk = 250V. Note 2	2.5	I	Iapk	7.5	-	-	A

K1001	TEST	TEST CONDITIONS	AQL %	Insp. Level	Symbol	LIMITS			UNITS
						Min	Bogey	Max	
	<u>GROUP D</u> Capacitance	Measured on 1Mc/s bridge with valve in fully screened holder. No shield Note 6.	6.5	IC	Cag 1 C in C out	- - -	- - -	18.5 12.5	PF PF PF
11.3	<u>GROUP E</u> Fatigue	Vh = 6.9V Note 3.		Ia					
11.4	Shock	No Voltages Hammer Angle = 30°		IA					
	<u>Post Fatigue and Shock Tests</u>								
	Heater-Cathode Leakage Current	Vhk = ± 100V	2.5		Ihk	-	-	100	µA
	Negative Grid Current	Rg1 = 500k max	2.5		Ig1	-	-	3	µA
	Mutual Conductance		2.5		gm	6.0	-	10	mA/V
	Vibration Noise	Note 4	2.5		Va AC	-	-	120	mVrms
	Peak Anode Current	As in Group A	2.5		Ia pk	1.5	-	-	A
AV1/5	<u>GROUP F</u> Life	Va = 6kV Vg2 = 600V Vg1 = -160V Vhk = 240V AC IK pk = 3A approx Pulse length = 2 µs, Prf. = 1000 c/s. Positive g1 excursion = 50V Note 5							
AV1/5.1	Stability Life Test Change in mutual conductance		1.0	I	gm	-	-	15	%
AV1/5.3	Intermittent Life Test			IA					

K1001	TEST	TEST CONDITION	AQL %	Insp. Level	Symbol	LIMITS			UNITS
						Min	Boqey	Max.	
	GROUP F								
	<u>Life Test end point (500 hrs)</u>								
	Inoperatives		2.5						
	Heater current		6.5		Ih	1.17	-	1.47	A
	Heater-Cathode Leakage Current	Vhk = ± 100V	6.5		Ihk	-	-	60	mA
	Reverse Grid Current	Rg1 = 500k max	6.5		Ig1	-	-	3	mA
	Mutual Conductance		6.5		gm	5.5	-	10	mA/V
	Peak Anode Current	Va = 7Kv Vg2 = 600V Vg1 = -160V NOTE 1	6.5		Iap _k	1.5			
	Electrode Insulation	See Group A	6.5		R	50	-	-	M
	GROUP G								
A IX /2.5	Electrical restest after 28-day holding period								
A VI /5.6	Inoperatives		0.5	100%					
	Reverse grid current	Rg1 = 500K max.	0.5	100%	Ig1	-	-	-	mA

NOTES

- Valve to be driven with 2 μsec pulse at p.r.f. 1,000 c.p.s. so that the grid voltage rises to 50V positive (max). RL = 2200 ohms ± 5% in series with 1.6 mH choke.
- Tp 2 μsecs p.r.f. 50 c/s
- Valves to be vibrated in each of the three required planes for not less than 30 hrs. and not less than 100 hrs. total. Heater switched 1 min. on 3 mins. off. No other voltages applied. Min. peak acceleration = 5g. Frequency = 170 c/s.
- | | |
|-----------------|---------------|
| Va (b) = 250V | Rk = 270 ohms |
| Vg2 (b) = 250V | Ck = 1000 μF |
| RL = 2 Kohms | Co = 0.1 μF |
| Rg2 = 15 K ohms | g = 2.5 |

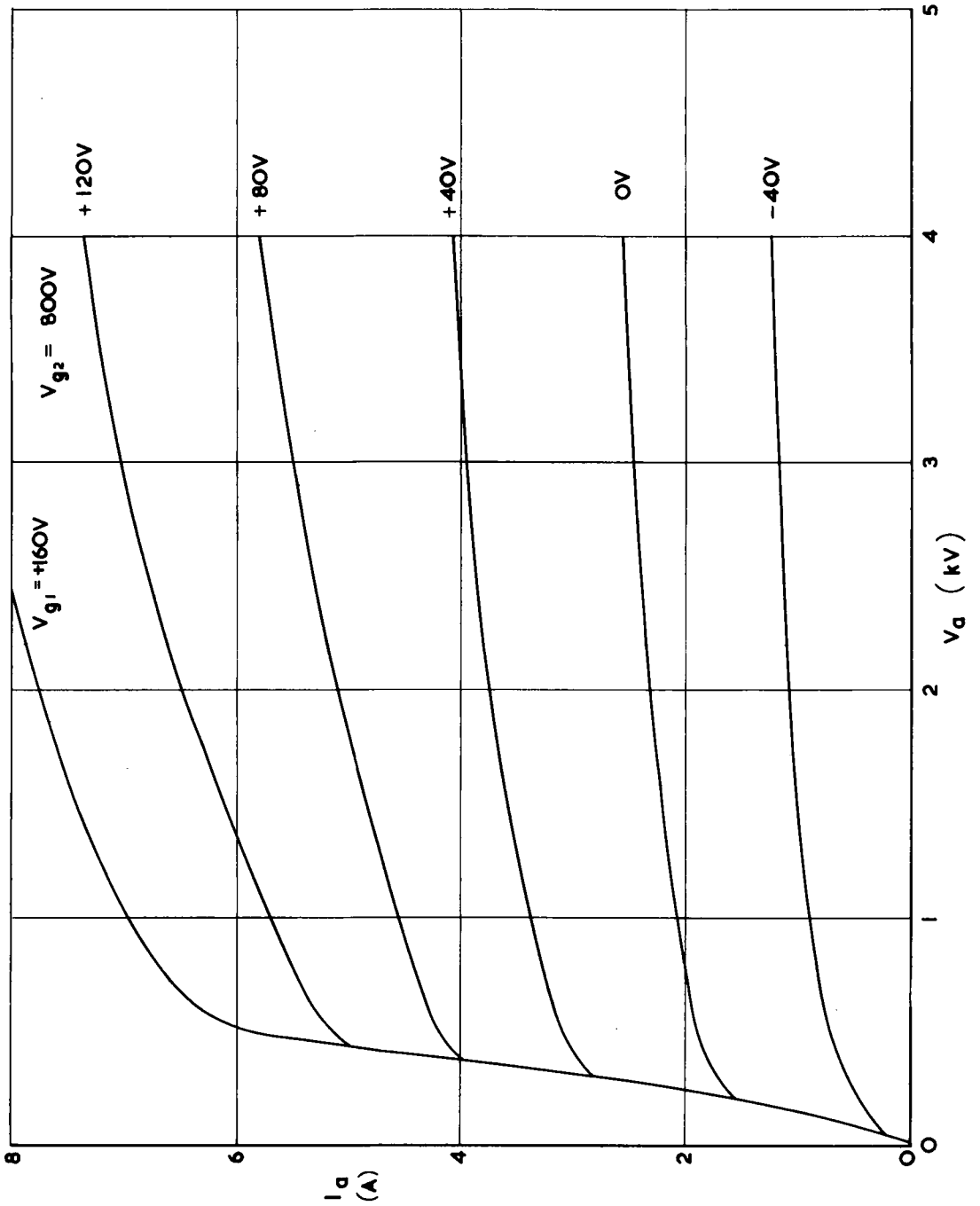
NOTES cont'd

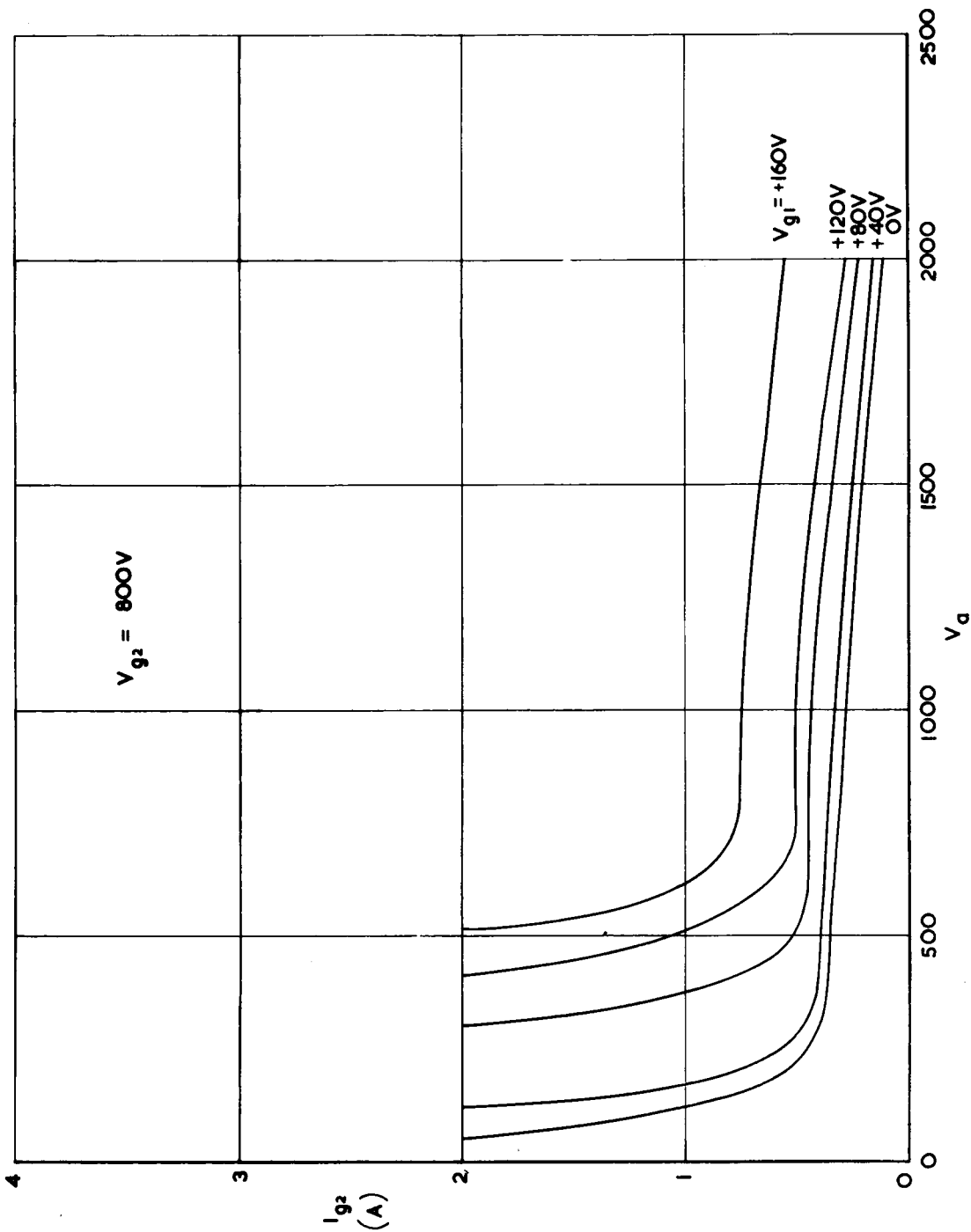
- 5. Pa approx 12 W
 Pg2 " 3.5 W
 RL = 1600 ohms \pm 5%
- 6. Capacity connections.

	HP	LP	E
Cag 1	TC	5	2. 4. 7. 8. C.
C in	5	2. 4. 7. 8.	TC. C.
C out	TC	2. 4. 6. 8.	5. C.

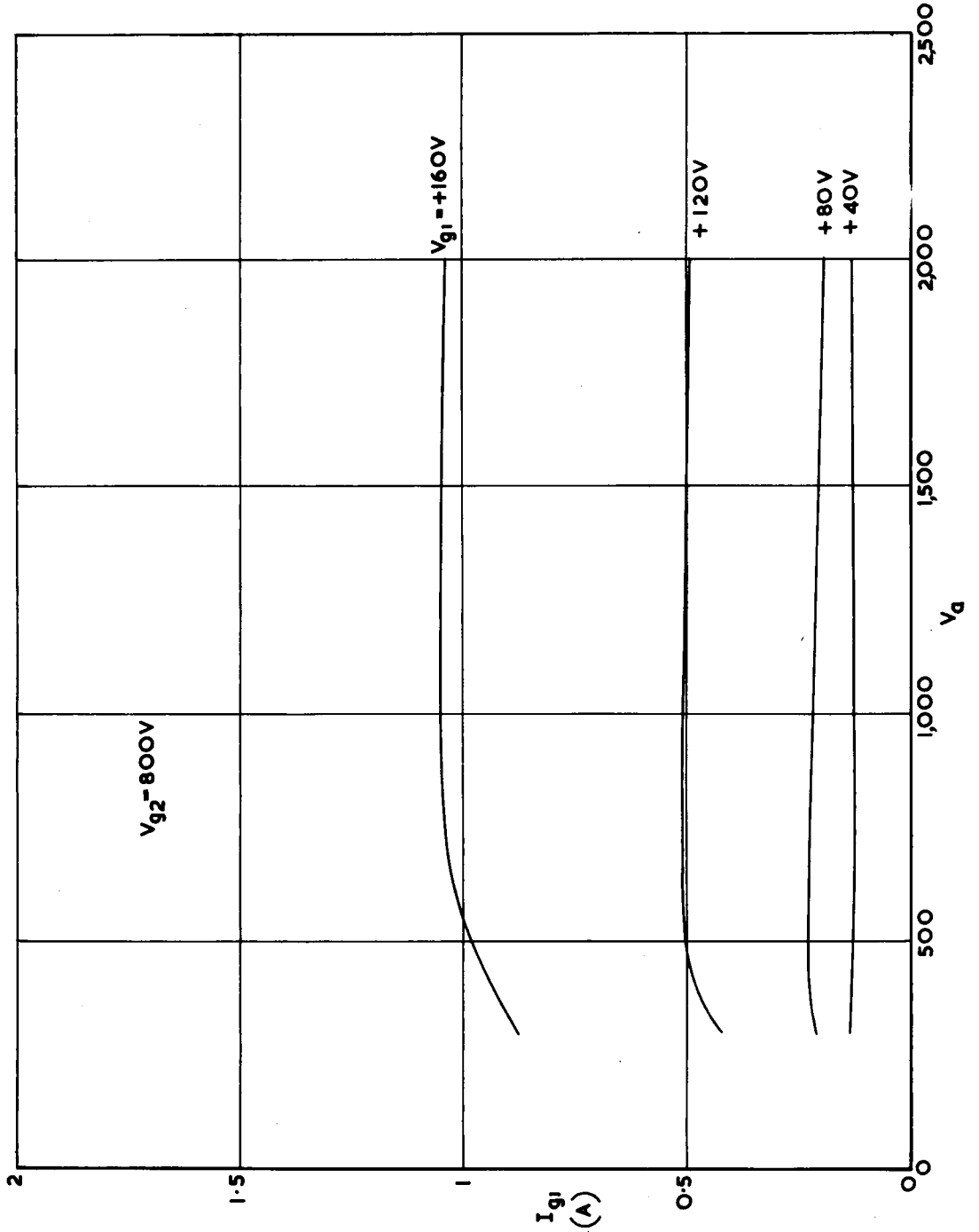
DATA SHEET

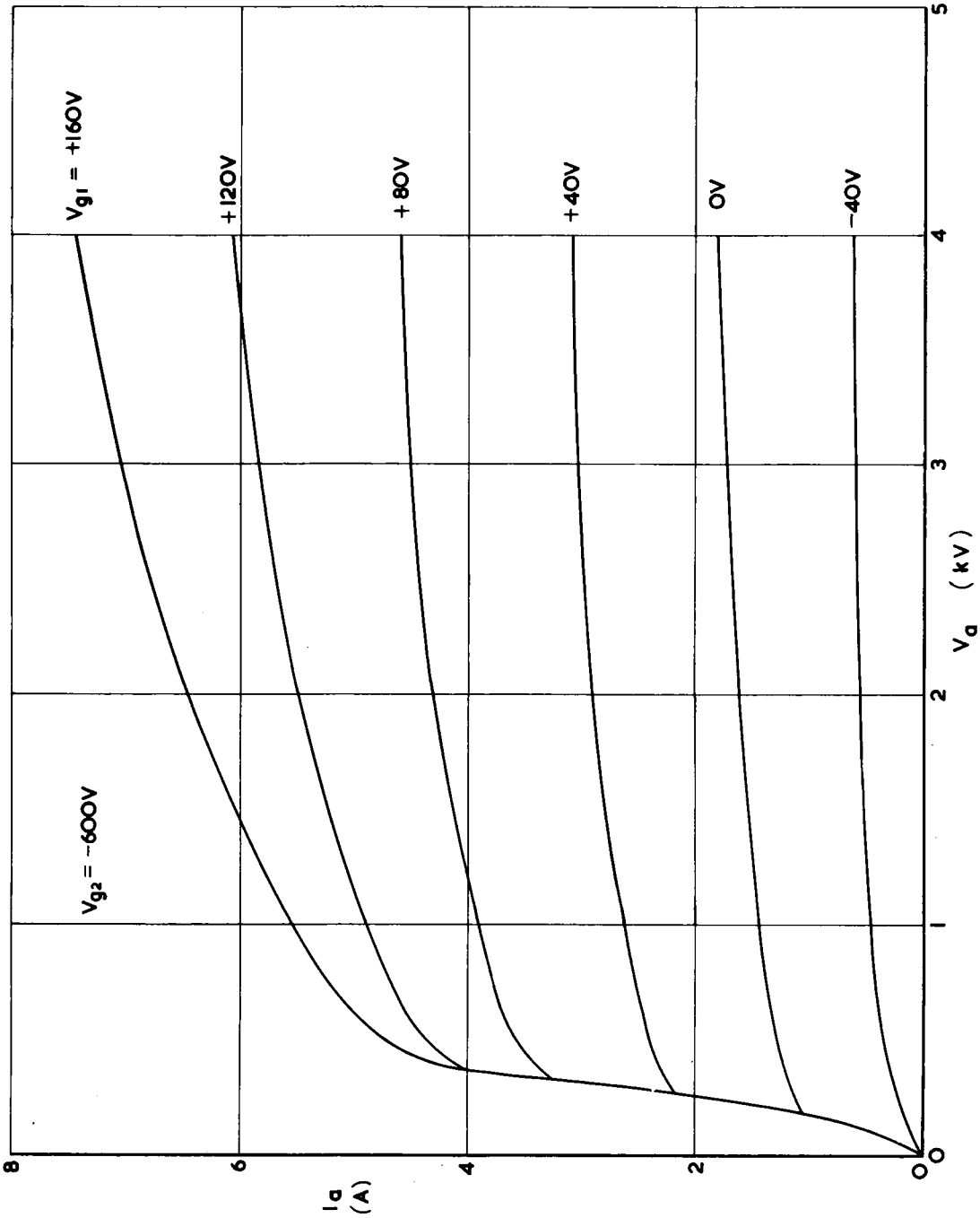
CV 4082





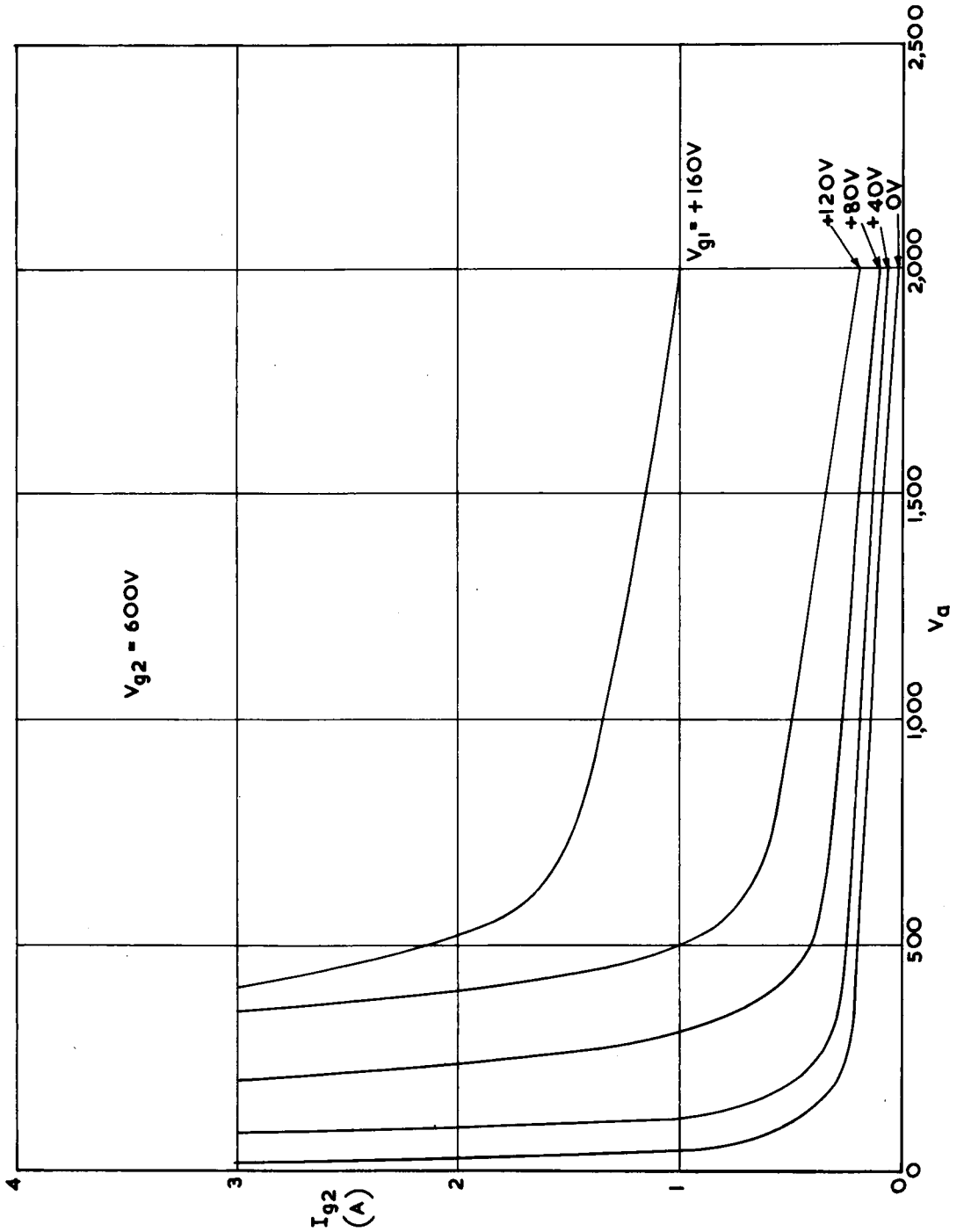
DATA SHEET





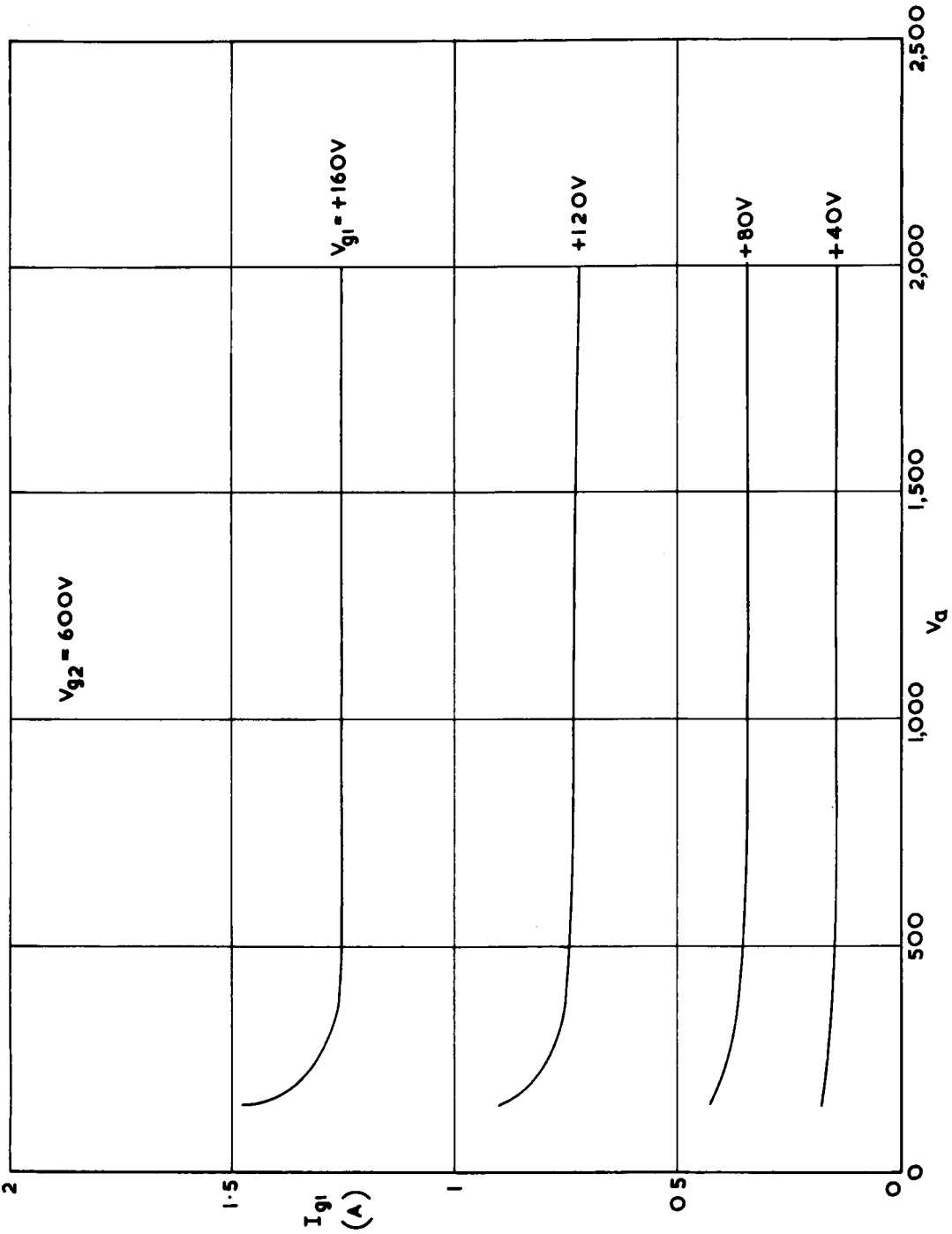
DATA SHEET

CV4082



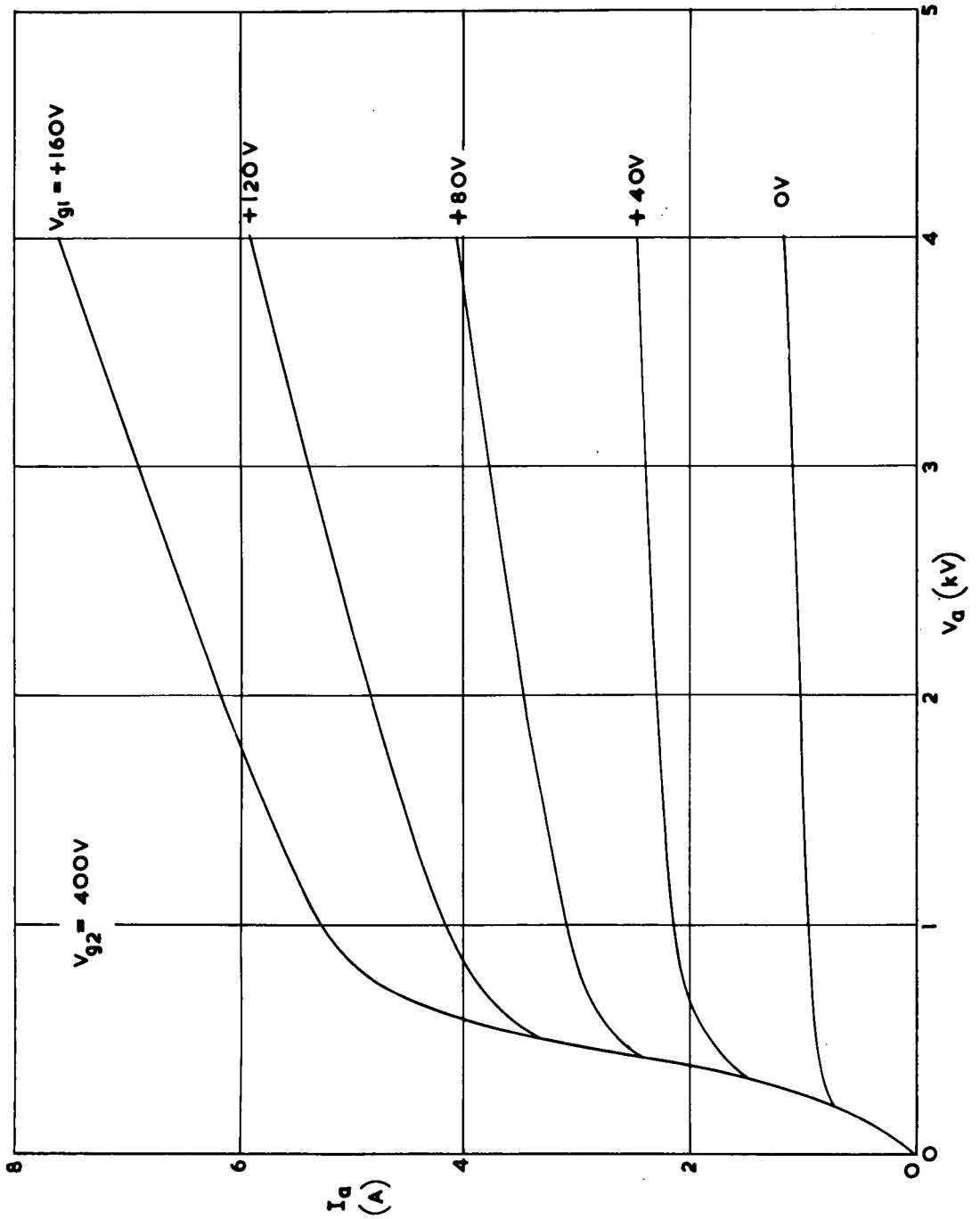
CV 4082

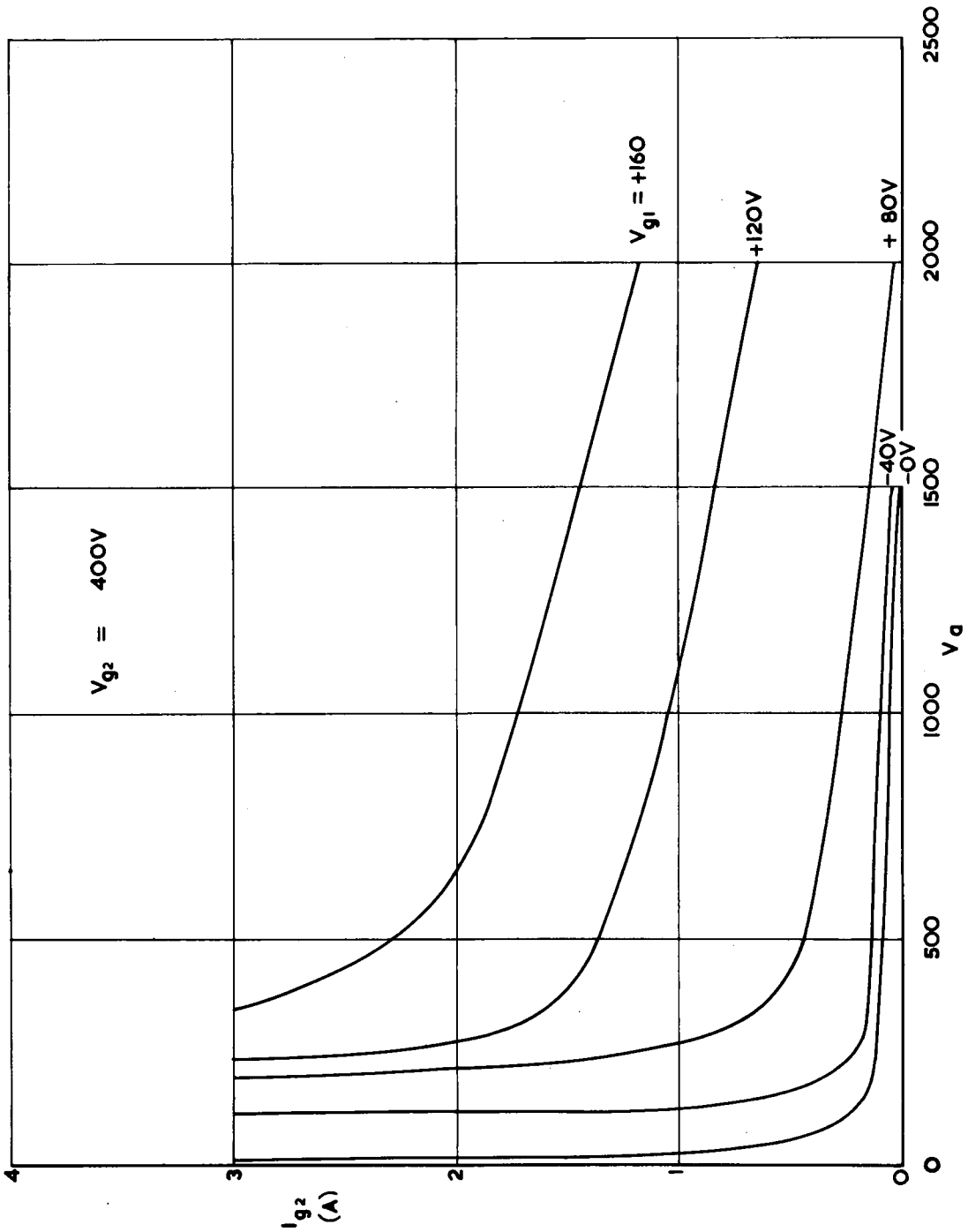
DATA SHEET



DATA SHEET

Page 7
CV 4082





DATA SHEET

CV 4082

