MINISTRY OF SUPPLY - DLRD(A)/RRE (South)

VALVE ELECTRONIC

CV2318

Specification MOS(A)/CV2318
Issue 2 Dated 24.6.54
To be read in conjunction with K1001

SECURITY	
Specification	Valve
UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - High Vacuum, High Voltage Diode
CATHODE - Indirectly-heated
ENVELOPE - Glass - Unmetallised
PROTOTYPE - VX3193

MARKING

See K1001/4

RATING

			Note
Rectifier Rating			
Heater Voltage	(V)	6.3	
Heater Current (approx.)	(A)	1.6	
Max. DC Anode Current	(mA)	100	A
Max. Peak Anode Current	(mA)	600	A
Max. Surge Anode Current	(A)	2.0	
→ Max. Peak Inverse Voltage with direct switching	(kV)	~~16.0~~ 14.2	A
Min. Limiting Resistance	(ohms)	4000	
→ Max. Cathode-Heater Voltage	(V)	250	B
Inverse Diode Rating			
Max. Anode Current (for pulsed operation)	(A)	7.5	C
Max. Anode Current (for pulsed operation, fault conditions)	(A)	14	C,D
Max. Anode Dissipation	(W)	10	
→ Max. Peak Inverse Voltage	(kV)	~~16.0~~ 14.25	
Min. Cathode Heating Time	(secs)	60	
Max. Ambient Temperature	(°C)	90	

CAPACITANCES (pF)

Ca-all	6.0

NOTE: To ensure that all pins and metal parts of the valve and base adjacent the cathode are at the same potential, particularly under transient conditions, valve holder tags 4, 5, 6, 9, the spigot and support plate should be connected to 8; tag 1 should be connected by means of a capacitor of sufficient size to tag 8. No connections should be made to the remainder of the tags.

BASE

B9G

CONNECTIONS See note E

Pin	Electrode	
1	Heater	
2	Internally connected	to cathode
3	Internally connected	together
4	Internally connected	
5	Internally connected	to cathode
6	Internally connected	together
7	Internally connected	
8	Cathode	
9	Heater	
TC	Anode	

TOP CAP

See K1001/AI/D5.2

DIMENSIONS

See K1001/AI/D2

Dimensions (mm)	Min.	Max.	
M	7.5	-	←
P	-	41	
Q	~~43.5~~ 43	45	
S	94	100	←
T	-	13	←

MOUNTING POSITION

Any

NOTES

A. Absolute maximum value.
→ B. Cathode positive to heater
C. Tp = 1 μsec; PRF = 1000 pps.
D. Max. duration of fault = 2 seconds. Max. frequency of faults = 1 per 5 minutes.

Z.6610.R.

CV2318

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions			Test	Limits Min.	Limits Max.	No. Tested	Note
	Vh (V)	Ia (mA)	Va (V)					
a	6.3	-	-	Heater Current (A)	1.45	1.75	100%	
b	6.3	300	-	Anode Voltage (V)	-	130	100%	
c	6.3	-	1500	Anode Current (A)	8.0	-	100%	1
→ d	6.3	The valve shall be operated in a half-wave rectifying circuit where: Input voltage = ~~6.0 kV RMS~~ 5.0kV RMS; Frequency = 50c/s; Output current = 100mA DC; Reservoir condenser = 0.25 µF; Load resistor = 60k (approx.) Effective external resistance = 4k		Load Test Run for 1 minute and reject for persistent flash-over or softness.	-	-	100%	2

NOTES

1. Tp = 2 µsecs; PRF = 50 c/s.
2. The valve shall be pre-heated for 60 secs. at Vh = 6.3 volts before the application of HT voltage.
3. The requirements of K1001/5.3 shall be waived and instead the following shall apply:-
   The heater-cathode leakage shall be measured with a heater voltage of 6.3 volts and with the heater negative to the cathode. A voltage of not less than 90 volts shall be applied through a limiting ~~resistance~~ resistance not exceeding 1.5 megohms and the leakage current shall not exceed 40 microamperes.

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION MOS(A)/CV2318
ISSUE 2 DATED 24.6.54

AMENDMENT 'C'

Page 1, CONNECTIONS:-

Add "see Note E"

Amend pin schedule as under:-

Pin	Electrode
1	Heater
2	Internally connected to cathode
3	Internally connected together
4	
5	Internally connected to cathode
6	Internally connected together
7	
8	Cathode
9	Heater.

P.T.O.

PAGE 2

Page 1, RATING:-

Amend Max. Peak Inverse Voltage rating of 16 in both cases to 14.25 (MAX)

Page 1, NOTES:-

Add Note E as follows:-

E. To ensure that all pins and metal parts of the valve and base adjacent the cathode are at the same potential, particularly under transient conditions, valve holder tags 4,5,6,9, the spigot and support plate should be connected to 8; tag 1 should be connected by means of a capacitor of sufficient size to 8. No connections should be made to the remainder of the tags.

Page 2, In Column headed Test Conditions:-

Test d, Input Voltage: Delete 6.0 kV RMS, substitute 5.0 kV RMS.

January, 1960 R.R.E.

N.12464/D

SPECIFICATION MOS/A/CV2318

ISSUE 2 DATED 24.6.54

AMENDMENT 'D'

Page 2, NOTES:-

ADD Note 3 as follows:-

The requirements of K1001/5.3 shall be waived and instead the following shall apply:-

The heater-cathode leakage shall be measured with a heater voltage of 6.3 volts and with the heater negative to the cathode. A voltage of not less than 90 volts shall be applied through a limiting resistance not exceeding 1.5 megohms and the leakage current shall not exceed 40 micro-amperes.

September, 1960
N.33755/D

R.R.E. AAT 10/11/60