Valve Electronic **CV6025**

Specification MOA/CV6025
Issue No.1 reprint A dated 8.6.61.
To be read in conjunction with K1001

SECURITY
Specification Unclassified
Valve Unclassified

→ indicates a change.

Type of Valve:- High Voltage Power Rectifier and Overswing Diode

Cathode:- Indirectly Heated, Oxide Coated

Envelope:- Glass

Prototype:- VX6118, PSV 13

Marking
See K1001/4

Base
B4A

Rating			Note
All limiting values are absolute			
Heater Voltage	(V)	6.3	
Heater Current	(A)	3.6	
Max.Anode Dissipation	(W)	35	
Overswing Diode			
Max. Peak Inverse Voltage	(kV)	20	A
Max. Peak Anode Current (short pulses)			
Normal conditions	(A)	13	B
Fault conditions	(A)	30	C
Approximate Anode Impedance at 20 amps	(ohms)	44	
Rectifier			
Max. Peak Inverse Voltage	(kV)	18	A
Max. Peak Anode Current	(A)	2	D
Max. Rectified Current	(mA)	260	E

Connections

1. Heater
2. Cathode
3. I.C. to cathode
4. Heater
T.C. Anode

Top Cap
Diameter 9.53 mm ± 0.2 mm
Length 16 mm ± 0.5 mm

Dimensions
See K1001/AI/D1

Dimension	Min.	Max
A (m.m.)		230
B (m.m.)		66

Mounting Position
Vertical

NOTES

A. The anode voltage must not be applied less than 30 seconds after switching on the heater supply.

B. For a maximum pulse duration of 2 microseconds.
With rectangular pulses the absolute maximum mean current is 60 mA.
With exponential pulses the absolute maximum mean current is 105mA.

C. For a maximum pulse duration of 10 microseconds and a maximum fault duration of 2 seconds. The absolute maximum mean current with exponential pulses is 315mA.

D. Minimum surge limiting series resistance 2,000 ohms including resistance of the transformer winding.

E. If the peak anode current is less than 2 amps. the rectified current can exceed the value quoted provided that the anode dissipation rating is not exceeded.

F. Joint Services catalogue number:- 5960-99-037-2141

To be performed in addition to those applicable in K1001

Before carrying out these tests the cathode shall be preheated with V_h = 6.3 volts for 30 seconds (MIN); for all tests V_h = 6.3 volts, unless otherwise stated.

100% Acceptance Tests

Ref.	Test	Test Conditions	Symbol	Limits Min	Limits Max	Units
→	(a) Holding period	Note 8		168		Hours
→	(b) Heater Current		I_h	3.2	4.0	Amps
	(c) Anode Current and Vacuum Test	150 Volts applied through 100 ± 5 ohms for 8 mins (Max) Note 1	I_a	600	850	mA
→	(d) Internal Resistance (1)	I_a peak = 20 Amps T_p = 1 ± 0.1/uS PRF 200 c/s ± 50 c/s	r	34	58	ohms
	(e) Internal Resistance (2)	As for test (d) but with V_h = 5.5 volts	r		63	ohms
	(f) Change in Internal Resistance	Result of test (e) minus result of test (d)	Δr		+11	ohms
	(g) Load Test	V_a = 7.8 kV RMS. at 50 c/s RL = 23,000 ± 1000 ohms Note 3,4				
	(h) Fault Test	I_a peak = 30, PIV = 20 kV. Any convenient PRF between 1400 and 1600 c/s V_h = 6.0 Volts Time of test 2 Secs. -0 Notes 4,5 +10%				
	(j) Life Test			Record		
		I_a peak = 12A T_p = 2/uS PRF between 1400 and 1600 c/s PIV = 19 kV				
→		End point: 500hrs. Repeat test (h) Note 6				
14.2.2 →	(k) Packaging Test	Note 7 T.A. only		4'6"		

CV6025

NOTES

1. No portion of the anode may shew hot spots during this test. No visible ionisation glow may occur, and V_a must remain constant to within ± 3% during the last three minutes of this test.

2. The internal resistance is defined as V_a peak divided by I_a peak.

3. Run for 15 minutes (MIN) as a half wave rectifier. Circuit conditions R_L = 23000 ± 1000 ohms, Condenser = 3/uf (Nom), limiting resistor = 2200 ohms (Nom).

4. Until suitable instruments are available to give a quantative measure of quality the following subjective assessment will be used. Reject any valve which shews appreciable sparking or abnormal heating of the cathode or heater.

5. The pulse shape shall be such that the exponential decay shall have a time constant of 7/uS (min), measured from the maximum of the current pulse.

6. One life test socket to be maintained. The Approving Authority shall be notified if any failures.

7. For this test read "Load Test" in K1001, 14.2.2 as "Fault Test".

8. The valve shall be held for the specified period before carrying out the acceptance tests.