CV 1603

(POVT 47)

VALVE ELECTRONIC

GENERAL POST OFFICE: E-IN-C (W)

Specification: G.P.O./CV 1603/Issue 1 Dated: 12-6-46 To be read in conjunction with K 1001	SECURITY	
	Specification	Valve
	Restricted	Restricted

——→ indicates a change

TYPE OF VALVE:	Triode, water-cooled
CATHODE:	Directly heated tungsten filament
ENVELOPE:	Metal-glass
PROTOTYPE	4014A

MARKING

See K 1001/4

Additional markings required (See Notes A,B,C)

Serial No. .....

Filament Volts .....

RATING			Note
		As marked	
Filament voltage	(V)		B
Nominal filament current	(A)	40.5	
Max. anode voltage	(kV)	12.0	D
Max. anode current	(A)	1.5	D
Max. anode dissipation	(kW)	12.0	D
Max. operating frequency	(Mc/s)	22	
Max. anode voltage at 22 Mc/s	(kV)	10.0	
Amplification factor		39.0	E

BASE

None

CONNEXIONS

See drawing on page 4

DIMENSIONS

See drawing on page 4

CAPACITANCES (pF)

Cag	(nominal)	23.0
Cae	(nominal)	6.5
Cge	(nominal)	8.0

PACKING

See K 1001/7.3

NOTES

A. The serial numbers will be allotted by the Inspecting Officer.

B. The Marked Voltage is defined on page 2, test (a).

C. It is not essential that the additional markings shall appear within the frame.

D. The max. frequency of operation for these ratings is 15 Mc/s.

E. Measured with Ia = 0.8A, and Eg = -50V (A.C. filament) or -39V(D.C. filament).

TESTS

The tests shown in Table I, or, alternatively, those shown in Table II, shall be performed in addition to those applicable in K 1001

TABLE I (for A.C. filament heating).

	TEST CONDITIONS				TEST	LIMITS		No. Tested	Note
	Vf(AC)	Va(kv)	Vg(V)	Ia(A)		Min.	Max.		
(a)	Read	3	3000	-	Vf. Minimum required for peak emission of 6 amps. To be known as "Marked Voltage" (MV)	20.5	22.5	100%	1
(b)	MV	0	0	-	If (A)	39.0	42.0	100%	
(c)	MV	13	Adjust	0.9	Reverse Ig (μA)	-	60.0	100%	2
(d)	MV	10	0	Read	Ia (A)	0.83	1.05	100%	
(e)	MV	Read Read	0 - 100	0.8	μ	37.0	41.0	100%	
(f)	MV	12	-	-	Oscillation efficiency (%)	66.0	-	100%	3
(g)	MV	13	Adjust	0.9	Reverse Ig (μA)	-	55.0	100%	2

TABLE II (for D.C. filament heating).

	TEST CONDITIONS				TEST	LIMITS		No. Tested	Note
	Vf(DC)	Va(kV)	Vg(V)	Ia(A)		Min.	Max.		
(a)	Read	3	3000	-	Vf. Minimum required for peak emission of 6 amps To be known as "Marked Voltage" (MV)	20.5	22.5	100%	1
(b)	MV	0	0	-	If (A)	39.0	42.0	100%	
(c)	MV	13	Adjust	0.9	Reverse Ig (μA)	-	60.0	100%	2
(d)	MV	10	0	Read	Ia (A)	0.77	0.99	100%	
(e)	MV	Read Read	10 -90	0.8	μ	37.0	41.0	100%	
(f)	MV	12	-	-	Oscillation efficiency (%)	66.0	-	100%	3
(g)	MV	13	Adjust	0.9	Reverse Ig (μA)	-	55.0	100%	2

NOTES

1. The test shall be made in accordance with K1001/A V.

2. The duration of tests (c) and (g) shall be 15 minutes each, and the reverse grid current shall not be rising at the end of either test.
Test (c) shall precede test (f), and test (g) shall follow immediately upon the end of test (f).

3. The duration of test (f) shall be 15 minutes, and the anode current shall not be less than 1A.

   The test shall be made by causing the valve to oscillate in an approved circuit, the oscillation frequency being not less than 15 Mc/s.

   In the event of such a circuit not being available for this test, the valve may be tested in an oscillatory circuit of a frequency not less than 800 kc/s, but, if this applies, the right is reserved to conduct test (f) on service premises in a circuit of frequency not greater than 22 Mc/s, and to reject any valve found to be unsatisfactory at this higher frequency during the test.

OUTLINE DRAWING