VALVE ELECTRONIC **C.V.5023.**

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

Specification AD/CV.5023, Issue No. 1 dated 1.11.56. To be read in conjunction with K.1001 and B.S.448. Letter Symbols as in B.S.1409.	SECURITY	
	Specification	Valve
	Unclassified	Unclassified

TYPE OF VALVE:- Thyratron, Gas Triode.

CATHODE:- Indirectly Heated

ENVELOPE:- Glass

PROTOTYPE:- Modified 6D4

MARKING

See K.1001/4

BASE

See B.S.448/B7G/1.1

RATINGS

All limiting values are absolute

Heater Voltage	(V)	6.3 ± 10%
Heater Current	(A)	0.23 to 0.49
Max. Peak Forward Anode Voltage	(V)	350
Max. Peak Inverse Anode Voltage	(V)	350
Peak Pulse Anode Current (See Note)	(A)	1.0
Max. Mean Anode Current	(mA)	25
Min. Cathode Heating Time	(Secs.)	30
Max. Negative D.C. Grid Voltage	(V)	150
Max. Heater Cathode Voltage (Heater Negative)	(V)	110
Max. Ambient Operating Temperature Range	(°C)	-50 to +90

CONNECTIONS

Pin	Electrode
1	g
2	NC
3	h
4	h
5	k
6	NC
7	a

DIMENSIONS

See B.S.448: Section B7G/2.1: Size No. 2

Dimension (mm)	Min.	Max.
Seated height	-	47.5
Diameter	16.0	19.0
Overall length	-	54.5

MOUNTING POSITION

Any

NOTE

A peak pulse anode current of at least 1A is obtained when the valve is operated, at the specified pulse repetition rate and pulse duration, in the circuit shown in Fig. 1 page 3.

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TESTS

To be performed in addition to those applicable in K.1001, and in the specified order.

Test conditions - unless otherwise specified:

Vh (V)	Rhk (Megohm)	Rg (Megohm)	Ra (Ohms)	Rk (Ohms)
6.3	1.0	0.5	650	4000

	TEST	TEST CONDITIONS	AQL %	INSP. LEVEL	SYMBOL	LIMITS MIN.	LIMITS MAX.	UNITS
a	Heater Current		4.0	1A	Ih	230	490	mA
b	Heater-Cathode leakage current	Vhk = -100V	6.5	1A	Ihk	-	15	µA
c	Grid-Cathode leakage current	Vg = -20V		100%	Ig	-	4.0	µA
d	Grid Voltage	Va(b) = 300V Note 1		100%	Vg	-21.0	-31.0	V
e	Voltage Drop	g joined to a through 1000 ohms. Ia = 100mA		100%	Va	-	18.0	V
f	Pulse Operation	Vh = 5.6V Note 2 and Fig. 1		100%	Vop	75	-	V
g	Life Test	In Circuit of Fig. 1 with Vh = 6.3V	4.0	1B				
	Life Test End Point							
	750 hours	In Circuit of Fig. 1 with Vh = 5.7V			Vop	75	-	V

NOTES

1. The negative grid voltage shall be reduced until the valve conducts. The voltage at which conduction occurs shall be within the specified limits.

2. The valve shall be tested in the circuit shown in Fig. 1. The valve under test shall have the heater voltage reduced to 5.6V and, after 30 seconds, the pulse shape shall be observed. The shape of the output pulse shall normally be as in Fig. 2. Any valve exhibiting a pulse shape as in Fig. 3 shall be rejected. The amplitude, Vop, of the pulse shall be greater than 75 volts.

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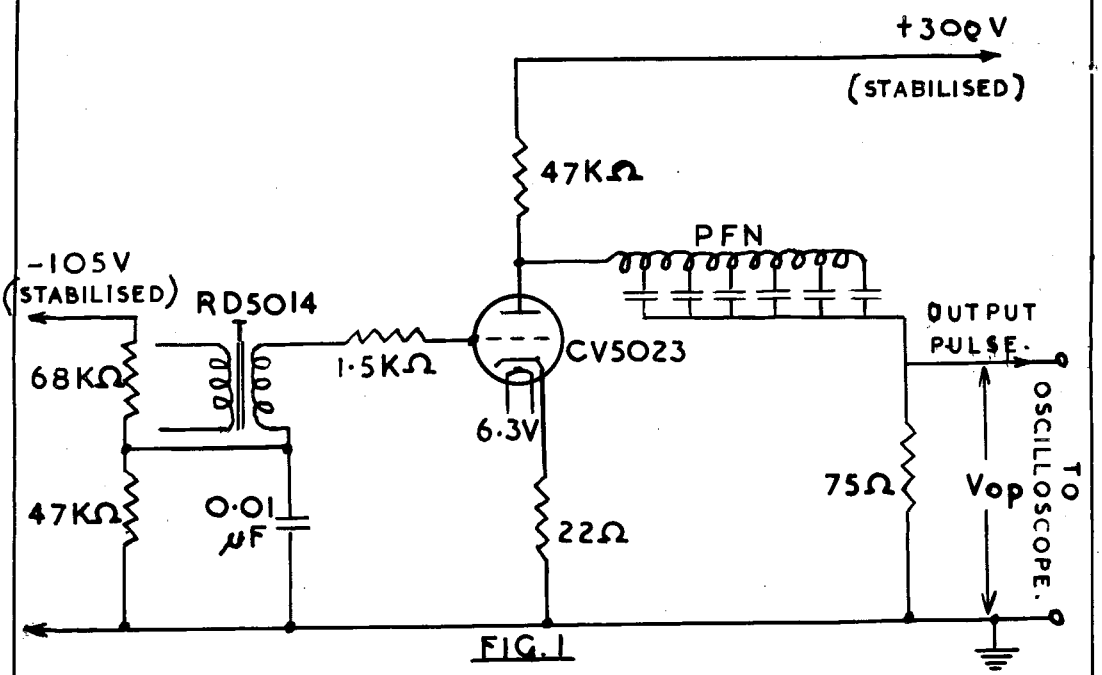

FIG. 1

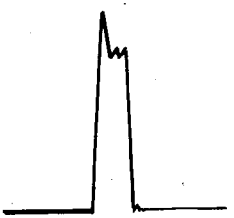

FIG. 2

FIG. 3

THE CIRCUIT ASSOCIATED WITH THE PULSE TRANSFORMER T (WHICH MAY BE A FERRANTI TRANSFORMER TYPE RD5014) ENABLES THE LATTER TO PRODUCE POSITIVE VOLTAGE PULSES OF ABOUT 1μS DURATION AT A REPETITION RATE OF 410 PPS, AND OF SUFFICIENT AMPLITUDE (AT LEAST 35V) TO "FIRE" THE CV5023.

THE PULSE FORMING NETWORK PFN IS A FERRANTI TYPE PN1032 UNIT. THE DISCHARGE OF PFN THROUGH THE 75Ω LOAD PRODUCES AN OUTPUT VOLTAGE PULSE OF AT LEAST 75 VOLTS AMPLITUDE AND OF APPROXIMATELY 1μS DURATION.