

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.	<u>SECURITY</u> <table border="1"> <tr> <td><u>Specification</u></td><td><u>Valve</u></td></tr> <tr> <td>Unclassified</td><td>Unclassified</td></tr> </table>	<u>Specification</u>	<u>Valve</u>	Unclassified	Unclassified
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<u>TYPE OF VALVE:-</u> Thyatron, Gas Triode.		<u>MARKING</u>	
<u>CATHODE:-</u> Indirectly Heated		See K.1001/4	
<u>ENVELOPE:-</u> Glass		<u>BASE</u>	
<u>PROTOTYPE:-</u> Modified 6D4		See B.S.448/B7G/1.1	
<u>RATINGS</u>		<u>CONNECTIONS</u>	
<u>All limiting values are absolute</u>		Pin	Electrode
Heater Voltage (V)	6.3 \pm 10%	1	g
Heater Current (A)	0.23 to 0.49 \pm 0.50	2	NC
Max. Peak Forward Anode Voltage (V)	350	3	h
Max. Peak Inverse Anode Voltage (V)	350	4	h
Peak Pulse Anode Current (See Note)(A)	1.0	5	k
Max. Mean Anode Current (mA)	25	6	NC
Min. Cathode Heating Time(Secs.)	30	7	a
Max. Negative D.C. Grid Voltage (V)	150	<u>DIMENSIONS</u>	
Max. Heater Cathode Voltage (Heater Negative) (V)	110	See B.S.448: Section B7G/2.1: Size No. 2	
Max. Ambient Operating Temperature Range (°C)	-50 to +90	Dimension (mm)	Min. Max.
		Seated height	- 47.5
		Diameter	16.0 19.0
		Overall length	- 54.5
		<u>MOUNTING POSITION</u>	
		Any	
<u>NOTE</u>			
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	SYM- BOL	LIMITS		UNITS
						MIN.	MAX.	
a	Heater Current		4.0	1A	Ih	400 230	500 490	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	<u>Life Test</u> <u>Life Test End Point</u> 750 hours	In Circuit of Fig. 1 with Vh = 6.3V In Circuit of Fig. 1 with Vh = 5.7V	4.0	1B				
					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.

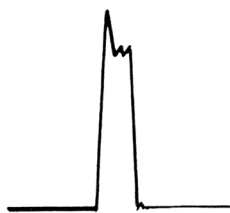
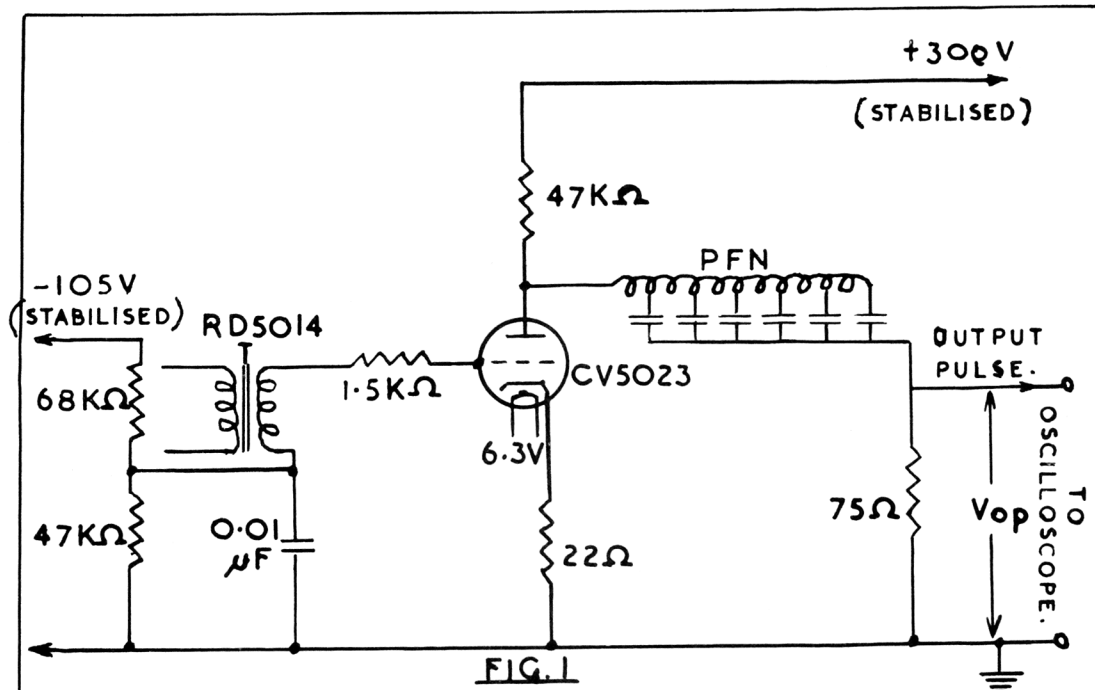


FIG. 2

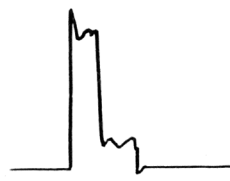


FIG. 3

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 1 μS 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 1 μS DURATION.

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION AD/CV5023, ISSUE 1, DATED 1.11.56.
AMENDMENT NO. 1.

(i) Page 1. Ratings

Against "Heater Current", amend "0.23 to 0.49" to read "0.40 to 0.50".

(ii) Page 2. Test (a)

In column headed "LIMITS", amend "MIN.230" and "MAX 490" to read "MIN. 400" and "MAX 500".

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TVC. for ASWE

✓HRS
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