VALVE ELECTRONIC

CV 5911

Specification: G.P.O./CV 5911/Issue 1

Dated: 22.1.65

To be read in conjunction with K 1001
BS 448 and BS 1409

SECURITY

Specification	Valve
Unclassified	Unclassified

→ Indicates a change

TYPE OF VALVE: Velocity Modulated Oscillator

CATHODE: Indirectly Heated

ENVELOPE: Glass

PROTOTYPE V271C/3M

MARKING

See K 1001/4

Ratings and Characteristics
Not to be used for inspection purposes
All limiting values are absolute

			Notes
Heater Voltage	(V)	6·3	
Heater Current	(A)	0·25	
Max Anode Voltage	(V)	600	A
Max Anode Dissipation	(W)	27	
Max Cathode Current	(mA)	65	
Max Resonator Voltage	(V)	600	B
Max Resonator Dissipation	(W)	18	
Max Drift Tube Voltage w.r.t. Resonator	(V)	200	B
Max Drift Tube Dissipation	(W)	3	
Max Screen Voltage	(V)	400	
Max Screen Dissipation	(W)	2	
Max Total Dissipation of all electrodes (except for heater)	(W)	40	
Min Frequency Range of Oscillation	(Mc/s)	6850 TO 7350	
Min Power Output as Modulated Oscillator	(mW)	800	

Notes A. Anode voltage should be set approximately 20V above resonator voltage.

B. Resonator Voltage. The intended method of operation is that the resonator voltage should be fixed and only the drift tube voltage adjusted for optimum power at the centre frequency.

Base

B 8 G

Connections

Pin	Electrode
1	h
2	K
3	g^2
4	a
5	dt
6	g^1
7	Res.
8	h

Dimensions

See drawing page 4

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TESTS

To be performed in addition to those applicable in K1001

Test Clause	Test Conditions								Test and Units	Limits		Notes
	Vh Volts	Vg Volts	Vs Volts	Vdt Volts	Vr Volts	Va Volts	I_k mA	Ia mA		Min	Max	
a	6·3	-	-	-	-	-	-	-	Heater Current (A)	0·18	0·27	1
b	6·3	-50	Adj for I_k (Vs)	430	530	550	60	-	Ia (mA) Vs (V) Is (mA) Ig (μA)	30 - -0·6 -	- 250 2·0 10	1,2,5
c	6·3	-50	Adj for I_k	430	530	550	40	-	Vs (V)	70	-	1,2,5
d	6·3	-50	Adj for I_k	Adj for Max Power	530	550	60	-	Oscillation Test 1 Freq.Limits (Gc/s) Power Output (mW) Vdt w.r.t. resonator (V) Idt (mA) Electronic tuning range(Mc/s) Circuit length (cms) Modulation freq. deviation (Mc/s)	6·845 800 -85 -3 17 0·2 5	6·850 -135 +5 2·5 9	1,2,3, 4,6.
e	6·3	-50	Adj for I_k	Adj for Max Power	530	550	60	-	Oscillation Test 2 Freq.Limits (Gc/s) Power Output (mW) Vdt w.r.t. resonator (V) Idt (mA) Electronic tuning range(Mc/s) Circuit length(cms) Modulation freq. deviation (Mc/s)	7·350 800 -25 -3 17 0 5	7·355 -75 +5 0·4 9	1,2,3, 4,6.

Test Clause	Test Conditions								Tests and Units	Limits		Notes
	Vh Volts	Vg Volts	Vs Volts	Vdt Volts	Vr Volts	Va Volts	I_k Volts	Ia Volts		Min	Max	
f	6·3	-50	Adj. for I_k	Adj. for Max Power	530	550	60	-	Oscillation Test 3 To be continuous over the range (Gc/s)	6·850	7·350	1,2.

NOTES

1. The heater shall be pre-heated for one minute at least before carring out any electrical test.
2. The tests are to be performed with the valve in a circuit, approved by the Qualification Approval Authority, the VSWR of the load not to exceed 1·3.
3. The drift tube voltage and output coupling slug must be adjusted for maximum output power.
4. A modulating voltage of about 100V peak to peak should be applied to the drift tube for measurement of Electronic Tuning Range, defined as the total frequency excursion between half power points.
5. Set circuit length to 0 cms for static characteristic test.
6. A modulating voltage of 20V peak to peak should be applied to the drift tube for measurement of modulation deviation frequency.

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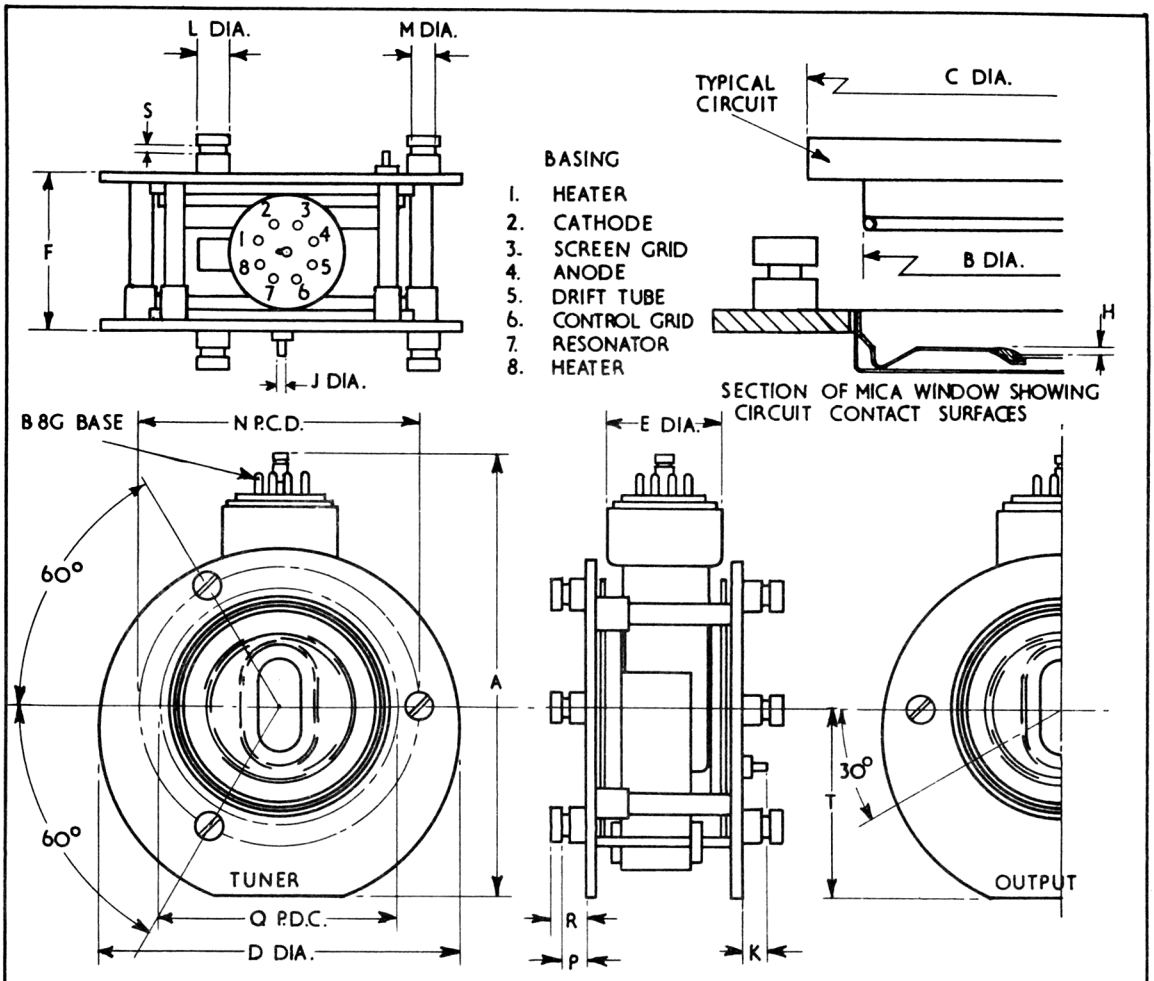

DIM.	MILLIMETRES	INCHES	DIM.	MILLIMETRES	INCHES
A	138,1 MAX.	$5\frac{7}{16}$ MAX.	K	$6,4 \pm 0\,4$	$\frac{1}{4} \pm \frac{1}{64}$
B	57,63 MAX.	2.269 MAX.	L	$9,53^{+0,00}_{-0,25}$	$0.375^{+0.000}_{-0.010}$
C	74,40 MAX.	2.929 MAX.	M	$4,75 \pm 0,13$	0.187 ± 0.005
D	$108,0 \pm 1,6$	$4\frac{1}{4} \pm \frac{1}{16}$	N	84,33 NOM.	3.320 NOM.
E	38,1 MAX.	$1\frac{1}{2}$ MAX.	P	$7,54 \pm 0,18$	0.297 ± 0.007
F	51,6 MAX.	$2\frac{1}{32}$ MAX.	Q	71,42 NOM.	2.812 NOM.
G	$16,69 \pm 0,51$	0.657 ± 0.020	R	$10,72 \pm 0,79$	0.422 ± 0.031
H	1,78 MIN.	0.070 MIN.	S	$2,36 \pm 0,18$	0.093 ± 0.007
J	$3,18 \pm 0,25$	0.125 ± 0.010	T	$55,6 \pm 0,8$	$2\frac{3}{16} \pm \frac{1}{32}$
NOTE:- BASIC FIGURES ARE INCHES					