VALVE ELECTRONIC **CV 5406**

Specification: G.P.O./CV 5406/Issue 1

Dated: 20.4.65

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

SECURITY	
Specification	Valve
Unclassified	Unclassified

→ indicates a change

TYPE OF VALVE: Power Travelling Wave Amplifier

CATHODE: Indirectly Heated

ENVELOPE: Glass

PROTOTYPE: N 1001

MARKING

See K 1001/4

Ratings and Characteristics
All limiting values are absolute

			Notes
Max. Heater Voltage	(V)	6·6	
Max. Collector Voltage	(V)	3000	
Max. Collector Current	(mA)	45	
Max. Helix Voltage	(V)	2800	
Max. Helix Current	(mA)	0·8	
Max. Grid 2 Voltage	(V)	1500	
Max. Grid 2 Dissipation	(W)	1·5	
Max. Grid 1 Voltage (always negative)	(V)	250	
Max. Grid 1 Dissipation	(W)	0·25	
Heater Voltage	(V)	6·3	
Heater Current	(A)	1·5	A
Min. Cathode Heating Time	(Mins)	2	
Frequency Range	(Gc/s)	1·7 to 2·3	
Gain (Saturated)	(db)	25	
Output Power (Saturated)	(W)	15	
Magnetic Field	(Gauss)	450	
Collector Radiator, Air Flow	(cu.ft/min)	25	

Note. A Heater Starting Current, peak instantaneous current must not exceed 4 amps.

Base
B4D

Connections

Pin	Electrode
1	g^1
2	h
3	K & h
4	g^2

Dimensions

See drawing page 4

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TESTS

To be performed in addition to those applicable in K 1001

Test conditions unless otherwise stated						Notes
V_h	V_{g2}	V_{col}	I_{col}	$I_{main\ sol.}$	Frequencies	
6·3 ± 5%	1,250V	2,800V	43 mA	1·8A	1·8, 2·0 & 2·25 Gc/s	1

Test Clause	Test Conditions				Test & Units		Limits		Notes
	Freq. Gc/s	$V_{hel.}$	V_{g1}	I gun sel.			Min	Max	
a	-	-	-	-	Heater Current	(A)	1·4	1·6	2
b		2360	Adj.	Adj.	Focusing and Centering				3
					Grid 1 Voltage	(V)	-150	-50	
					Gun solenoid current	(A)	-0·5	+0·5	
					Max. helix current on rotation	(mA)	-	0·5	
					Min. helix current on rotation	(mA)	-	0·3	
c					Output Matching and Power for each frequency				
	1·8	2690	Adj.	Adj.	Test 1				
	2·0	2630	Adj.	Adj.	Test 2				
	2·25	2560	Adj.	Adj.	Test 3				
					Grid 1 Voltage	(V)	-120	-30	
					Gun solenoid current	(A)	-0·5	+0·5	
					V.S.W.R.	(Ratio)	-	1·15:1	4
					Power Output	(W)	10	-	5
					Helix current	(mA)	-	0·4	6

Notes.

1. The tests are to be performed in a circuit approved by the Type Approval Authorities. A pre-heat time of three minutes is required before any test is made.

2. This test is performed with only the heater voltage applied to the tube.

3. Initially grid 1 to be set at -160 volts, this is then adjusted until the collector current attains its operating value, the gun solenoid current being varied to maintain the helix current below the maximum limit. The tube is then rotated through 360^{0}, the maximum and minimum values of helix current obtained during rotation should not exceed the respective limiting values.

4. The tube to be initially set up as in Note 3 and then rotated to the position of minimum helix current. The matching adjustments on the mount are then set so that the V.S.W.R. looking into the R.F. output connection of the tube is a minimum at the specified frequency. Leaving these adjustments set the V.S.W.R. is then measured at the specified frequency F and at F $\pm$ 10 Mc/s.

5. The R.F. power measurement is made with an R.F. input power of 50 mW and a load of V.S.W.R. not greater than 1.5:1. The electrode voltages are those used in the measurement of output match, Note 4. If it is necessary to adjust the gun solenoid current to maintain the helix current below the maximum permissible value the output match should be rechecked under the revised conditions.

6. The helix current is measured under the operating conditions of Note 5.

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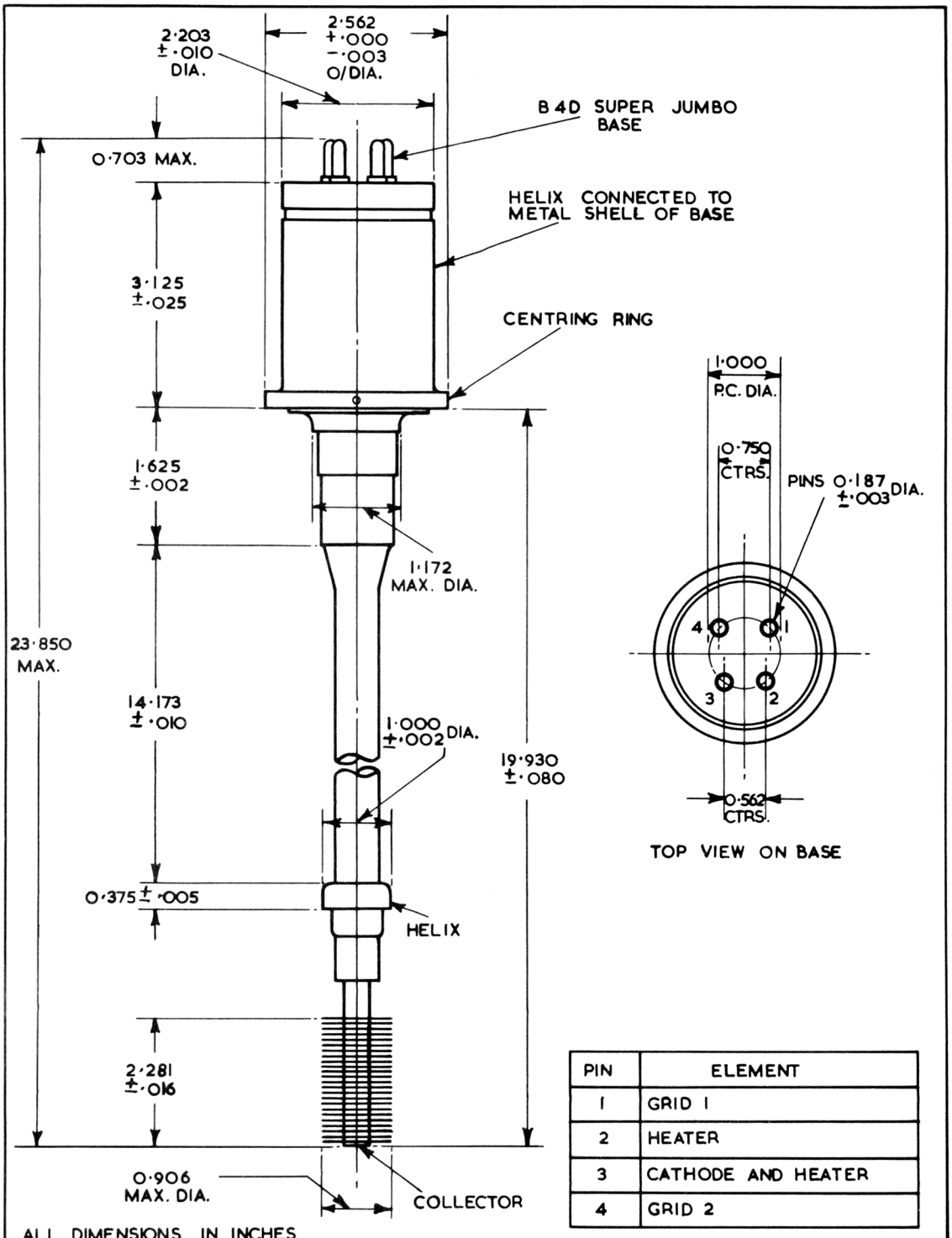

PIN	ELEMENT
1	GRID 1
2	HEATER
3	CATHODE AND HEATER
4	GRID 2

ALL DIMENSIONS IN INCHES