MINISTRY OF SUPPLY (D.L.R.D.(A), R.A.E.)

VALVE ELECTRONIC CV427

Specification MAP/CV427
Issue 2; Dated 28. 5.52.
To be read in conjunction with K1001

SECURITY	
Specification	Valve
UNCLASSIFIED	UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Pulse Modulator Tetrode
CATHODE - Indirectly Heated
ENVELOPE - Glass, unmetallised
PROTOTYPE - VX7016; 715C

MARKING

See K1001/4

BASE

See Drawing on Page 4, B.4A

CONNECTIONS

Pin	Electrode
1	Heater
2	Screen Grid
3	Control Grid
4	Heater & Cathode
T.C.	Anode

TOP CAP

See Drawing, Page 4

DIMENSIONS

See Drawing, Page 4

RATINGS

		Note
Heater Voltage (V)	26	
Heater Current (A)	2.0	
→ Max. Anode Voltage (kV)	17.5	
Max. Negative Control Grid Voltage (kV)	1	
Max. Peak Positive Control Grid Voltage (V)	300	
Max. Screen Grid Voltage (kV)	1.25	
Max. Screen Grid Voltage, (Ia = 0) (kV)	1.35	A
Max. Anode Dissipation (W)	60	
Max. Peak Anode Current (A)	15	B
Max. Screen Grid Dissipation (W)	8	

CAPACITANCES (pF)

Cag (Max.)	2
Cge	37
Cae	7.5

NOTES

A. Screen Grid potential should not exceed 1.25 kV during operation. Minimum series resistance = 20,000 ohms.

B. For duty cycle not greater than 0.001. With peak currents in excess of 5A the product of the current in amperes, and pulse duration in microseconds should not exceed 30. The valve should not operate for longer than 5 microseconds in any 100 microseconds period.

CV427

TESTS

To be performed in addition to those applicable in K1001.

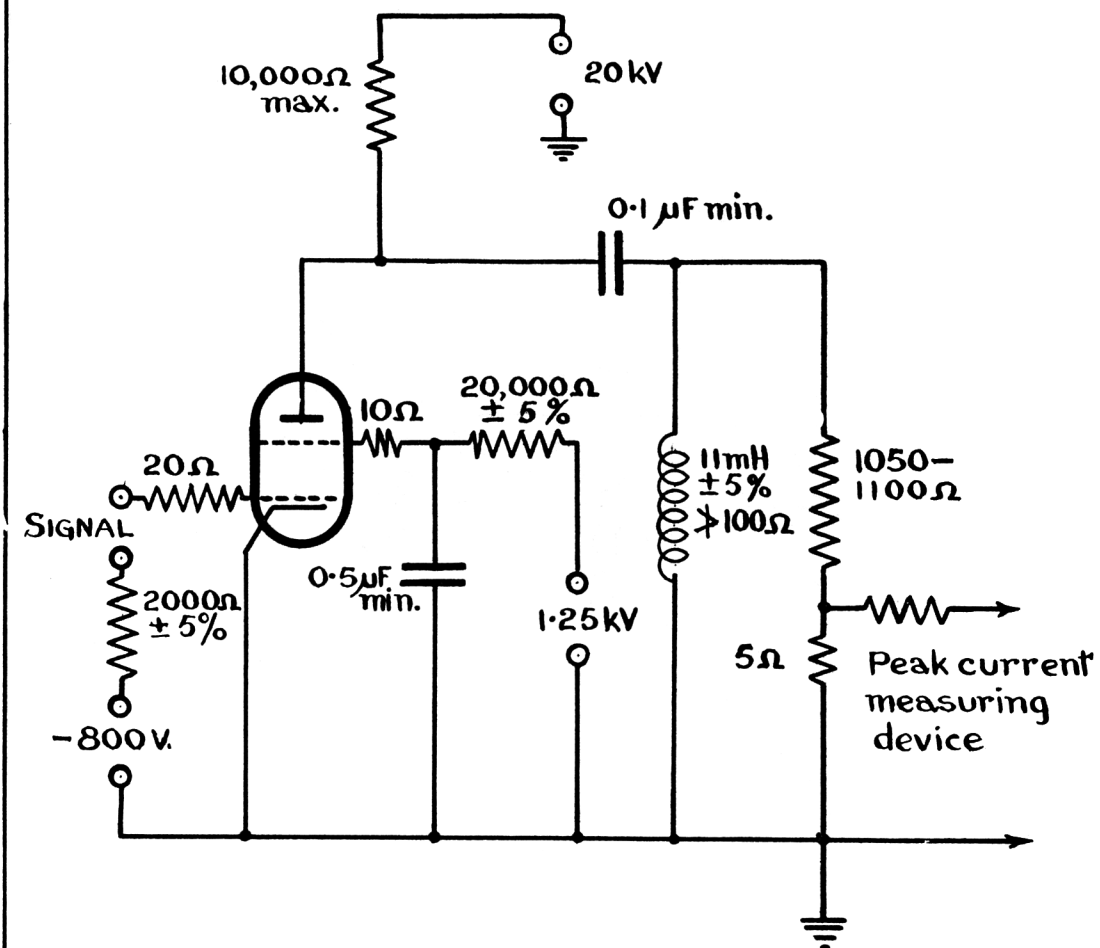
	Test Conditions					Test	Limits		No. Tested	Note
							Min.	Max.		
a						CAPACITANCE (pF) 1. Cag 2. Cge 3. Cae	 - 30 5	 2 45 10	 6 per week	
	Vh (V)	Va (kV)	Vg2 (kV)	Ia (mA)	Vg1 (V)					
b	27	0	0	0	0	Ih (A)	1.95	2.35	100% or S	
→ c	27	1.2	1.0	50	Adjust	Reverse Ig1 (μA)	0	20	100%	1
→ d	27	1.2	1.0	50	Adjust	Ig2 (mA)	0.5	6.0	100% or S	
→ e	27	1.2	1.0	50	-	Vg (V)	-190	-290	100%	
→ f	27	1.2	1.0	1.0	-	Vg (V)	-	-400	100%	
→ g	27	1.2	1.0	-	-500	Reverse Ig1 (μA)	0	40	100%	
h	25	20	1.25	-	-800	Ia (Peak) (A) Ig2 (Mean)	15 Never Negative	-	100%	2

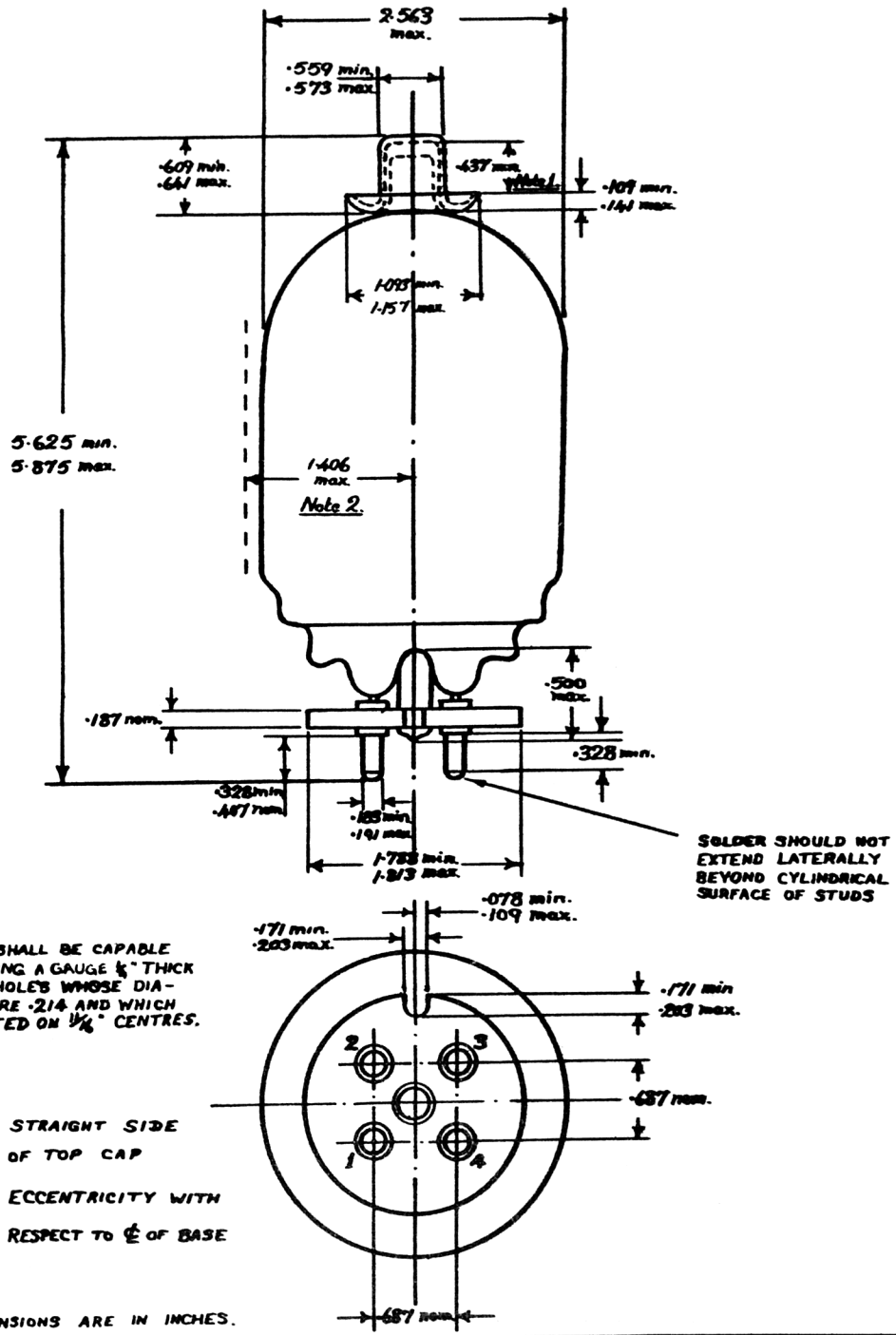
NOTES

1. Valve shall operate with constant, or decreasing, grid current for 2 minutes. It shall become constant, or decrease, in 5 minutes.

2. A pulse of length 2 micro- seconds, and repetition rate of 300 - 500 per sec. with a variation in amplitude over 80% of the top portion of the pulse not greater than 5%, shall be applied to drive the control grid positive by 225 ± 25 V at the top of the pulse. The variation in amplitude of output pulse to be not greater than 10% and during the test there shall be no sustained sparking. Duration of test 2 minutes. The test circuit is shown on page 3.

CV427


10,000Ω
max.
20 kV
0·1 μF min.
10Ω
20,000Ω
± 5%
20Ω
SIGNAL
2000Ω
± 5%
−800 V.
0·5μF
min.
1·25 kV
11mH
± 5%
≯100Ω
1050–
1100Ω
5Ω
Peak current
measuring
device



THE BASE SHALL BE CAPABLE OF ENTERING A GAUGE $\frac{1}{8}$" THICK HAVING 4 HOLES WHOSE DIAMETERS ARE ·214 AND WHICH ARE LOCATED ON $\frac{1}{16}$" CENTRES.

NOTE 1. STRAIGHT SIDE OF TOP CAP

NOTE 2. ECCENTRICITY WITH RESPECT TO ℄ OF BASE

ALL DIMENSIONS ARE IN INCHES.