

MINISTRY OF SUPPLY - DLRD(A)/TRE

VALVE ELECTRONIC

CV487

Specification MOS(A)/CV487 Issue 3 Dated 16/10/52 To be read in conjunction with K1001.	<u>SECURITY</u>
	Specification Valve UNCLASSIFIED UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Cathode Ray Tube	<u>MARKING</u>	
TYPE OF DEFLECTION - Magnetic	See K1001/4	
TYPE OF FOCUS - Magnetic	<u>BASE</u>	
SCREEN - YY7 (with aluminium backing)	B7B	
PROTOTYPE - VCX1315	<u>CONNECTIONS</u>	
<u>RATING</u>	Pin	Electrode
Heater Voltage (V) 4.0	1	IC ←
Heater Current (A) 1.0	2	A1
Max. First Anode Voltage (V) 300	3	G
Max. Final Anode Voltage (kV) 7.0	4	IC ←
Max. Heater-Cathode Voltage (V) 100	5	H2
Min. Grid Voltage (V) -1	6	C
	7	H1
	SC	A2
	<u>SIDE CONTACT</u>	
	As K1001/A1/D5.1, with an annular ring indented to provide locking for the anode contact clip.	
	<u>DIMENSIONS</u>	
	See Drawing, Page 4.	
<u>NOTES</u>		
A. Heater negative with respect to cathode.		
B. The anode 2 cap may be secured by means of an approved conducting thermoplastic cement.		
C. The pins of the base shall be coated with Grease, DTD577 and the base masked for transit using waxed fabric secured with adhesive tape.		

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TESTS

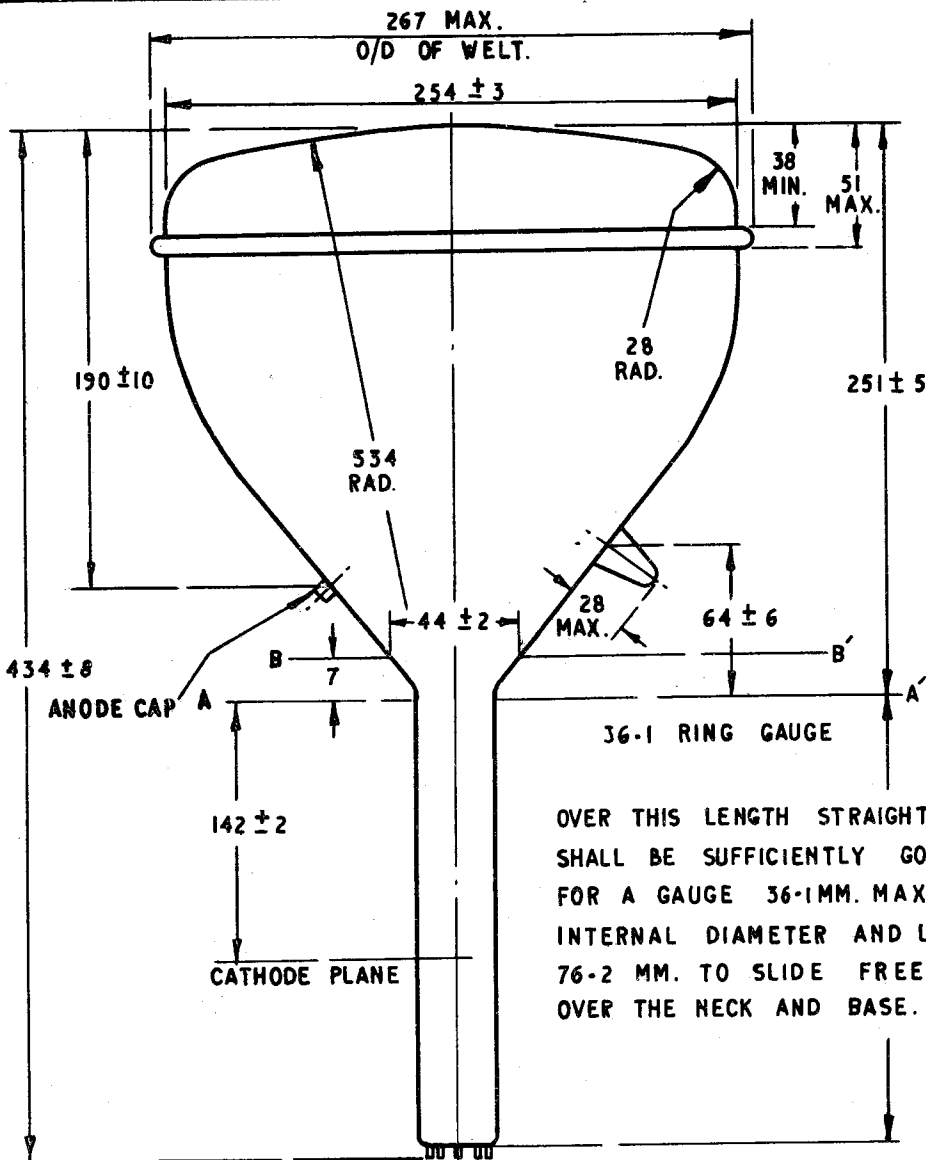
To be performed in addition to those applicable in K1001

Test Conditions					Test	Limits		No. Tested	Note
						Min.	Max.		
a See K1001/5A.13					Capacitances (pF)				
					1. Grid to all other electrodes	-	15	5%(20)	
					2. Cathode to all other electrodes	-	10	5%(20)	
Vh (V)	Va2 (kV)	Va1 (V)	Vg (V)						
b 4.0	0	0	0	Ih (A)	0.84	1.1	100%		
c 4.0	5.5	250	Adjust to cut-off	-Vg (V)	25	60	100%		
d 4.0	5.5	250	-						
Vg adjusted to give a light output of 0.5 candle, using a close raster of convenient size.					1. Change in Vg from value found in Test (c). (V)	-	20	100%	
					2. Within the range of grid voltage from cut-off to light output the beam current shall increase continuously.			100%	
e 4.0	5.5	250	-	Line Width (mm)	-	0.5	100%		
Focus adjusted for optimum.									
<u>Deflection</u> Using a linear scan of 10 kc/s and a line length of 200 mm in X and Y directions successively, the line width shall be measured at the centre of the trace.									
<u>Grid</u> The grid shall be pulsed positively from cut-off with amplitude equal to the value obtained in Test (d.1), the nominal value of pulse duration and recurrence rate being 100 μ secs and 100 c/s, respectively.									
f 4.0	5.5	250	60	Grid Insulation (μ A)					
Recommended method: See K1001/5A.3.2 Resistor = 5 Megohms.					1. Leakage Current	-	12	100%	
					2. Increase in voltmeter reading	-	100%	100%	

	Test Conditions				Test	Limits		No. Tested	Note
	Vh (V)	Va2 (kV)	Va1 (V)	Vg (V)		Min.	Max.		
g	4.0	5.5	250	Adjust Adjust for optimum focus. Deflection to cover the stated circle concentric with the screen centre with no evidence of neck shadow.	Useful Screen Area Diameter (mm)	225	-	100%	2
h	4.0	5.5	250	Near cut-off No focus coil energisation	Deviation of spot from centre of screen (mm)	-	10	100%	
j	4.0	5.5	250	Adjust Test to be performed with Test Set, Type 331 using a close raster of convenient size and the N4 filter.	Persistence (secs)	4	-	100%	

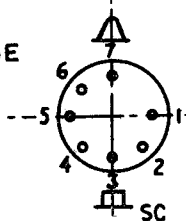
NOTES

- To prevent screen burning it is advisable not to focus during the cut-off tests. The focussing fields should be adjusted for optimum for other tests, with the focus coil gap 100 mm from line AA' (See Drawing, Page 4).
- The deflector coil length must not be less than 70 mm and the coil centre not less than 40 mm from the axis of BB' (See Drawing, Page 4).



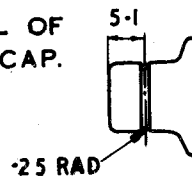
OVER THIS LENGTH STRAIGHTNESS SHALL BE SUFFICIENTLY GOOD FOR A GAUGE 36-1MM. MAX. INTERNAL DIAMETER AND LENGTH 76-2 MM. TO SLIDE FREELY OVER THE NECK AND BASE.

BASE



A2 AND EXHAUST PIP TO BE WITHIN ± 15° OF LINE THROUGH PINS 3 AND 7.

DETAIL OF ANODE CAP.



ALL DIMENSIONS IN MMS.