

VALVE ELECTRONIC

CV2315

GENERAL POST OFFICE: E-IN-C (S)

Specification: GPO/CV.2315 Issue 1 Dated: October 1954. To be read in conjunction with K1001	<u>SECURITY</u> <u>Specification</u> Unclassified	<u>Valve</u> Unclassified
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→ indicates a change

<u>TYPE OF VALVE:</u> Cathode Ray Tube			<u>MARKING</u> See K1001/4																																																									
<u>TYPE OF DEFLECTION:</u> Magnetic			<u>BASE</u> I.O.																																																									
<u>TYPE OF FOCUS:</u> Magnetic			<u>CONNEXIONS</u>																																																									
<u>BULB:</u> Glass.			<u>Pin</u>	<u>Electrode</u>																																																								
<u>SCREEN:</u> BB4 (with aluminium backing)			1	No connexion																																																								
<u>PROTOTYPE:</u> C12B/1			2	Heater																																																								
			3	No Pin																																																								
			4	No Pin																																																								
			5	Grid																																																								
			6	No Pin																																																								
			7	Heater																																																								
			8	Cathode																																																								
			S.C.	Anode																																																								
			<u>SIDE CONTACT</u> See K1001/A1/D5.1.																																																									
			<u>DIMENSIONS</u> See drawing on Page 4																																																									
<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: center;"><u>Rating</u></th> <th style="text-align: center;">(V)</th> <th style="text-align: center;">(A)</th> <th style="text-align: center;">(KV)</th> <th style="text-align: center;">(uA)</th> <th style="text-align: center;">(V)</th> <th style="text-align: center;">(V)</th> <th style="text-align: center;">Note</th> </tr> </thead> <tbody> <tr> <td>Heater voltage</td> <td style="text-align: center;">2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Heater current</td> <td></td> <td style="text-align: center;">2.1</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">A</td> </tr> <tr> <td>Max anode voltage</td> <td></td> <td></td> <td style="text-align: center;">13.2</td> <td></td> <td></td> <td></td> <td style="text-align: center;">A</td> </tr> <tr> <td>Max beam current</td> <td></td> <td></td> <td></td> <td style="text-align: center;">250</td> <td></td> <td></td> <td style="text-align: center;">A</td> </tr> <tr> <td>Max heater-cathode voltage</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">150</td> <td></td> <td style="text-align: center;">B</td> </tr> <tr> <td>Min. grid voltage</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">-2</td> <td></td> <td style="text-align: center;">A</td> </tr> </tbody> </table>					<u>Rating</u>	(V)	(A)	(KV)	(uA)	(V)	(V)	Note	Heater voltage	2							Heater current		2.1					A	Max anode voltage			13.2				A	Max beam current				250			A	Max heater-cathode voltage					150		B	Min. grid voltage					-2		A
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<p>NOTES: A. Absolute values. B. Heater negative to cathode</p>																																																												

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TESTS

To be performed in addition to those applicable in K1001

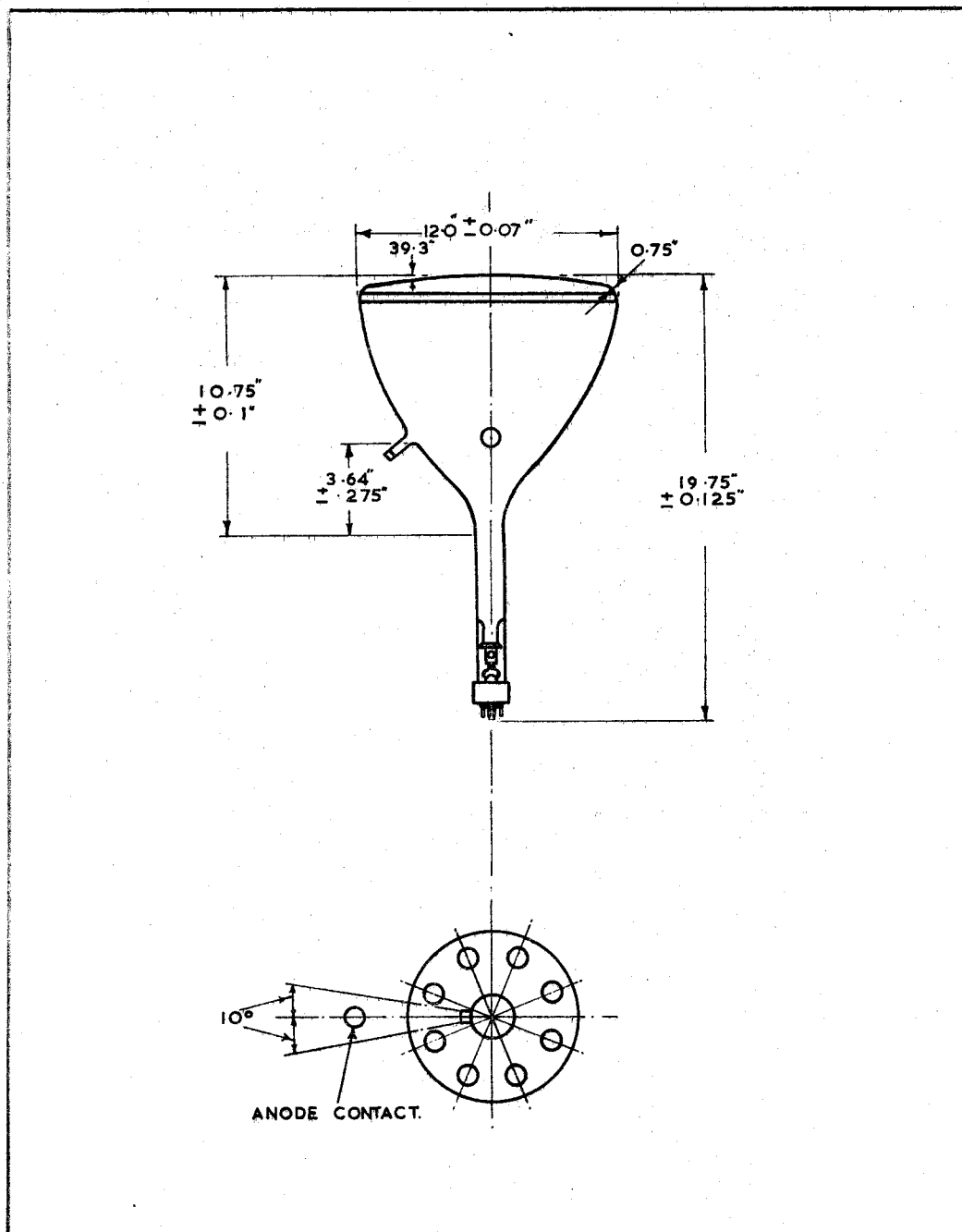
Test Conditions					Test	Limits		No. Tested
						Min.	Max.	
a See K1001/5A.13					<u>Inter-electrode capacitances (pF)</u> 1. Grid to all other electrodes 2. Cathode to all other electrodes	-	9	5% (20)
						-	7	5% (20)
	Vh (V)	Vg (V)	Va (kV)	Ia (μ A)				
b	2.0	0	0	0	Ih (A)	1.9	2.5	100%
c	2.0	Adj. to cut off	12		Vg (V)	-70	-105	100%
d	2.0	Adj.	12	150	1. Vg (V) 2. The beam current shall increase smoothly from cut-off to Ia = 150 μ A.	-10	-35	100%
The spot shall be suitably defocused or deflected off the useful screen area.								
e	2.0	Adj.	12	-	<u>Light Intensity</u> Beam current (μ A)	-	1.5	100%
Using a close raster of convenient size, Vg adjusted to give a light output of 0.043 candela.								
f	2.0	0	0	0	<u>Heater-cathode insulation</u> Leakage current (μ A)	-	120	100%
See K1001/5A 3.3 A voltage of 250V shall be applied between heater and cathode.								
g	2.0	-110	12	0	<u>Grid insulation</u> 1. Leakage current (μ A) 2. Increase in voltmeter readings	-	11	100%
See K1001/5A3.2 Resistor - 10 megohms								
h	2.0	+25	-0.01	-	Reverse Ia (μ A)	-	0.002	100%

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To be performed in addition to those applicable in K1001.

Test Conditions					Test	Limit		No. Tested
						Min.	Max.	
	V _h (V)	V _g (V)	V _a (KV)	I _a (μ A)				
j	2.0	Adj.	12	-	Deviation of spot from centre (mm)	-	6.35	100%
No focusing or deflecting field shall be present.								
k	2.0	Adj.	12	50	Unfocused spot diameter (mm)	-	23	100%
No focusing or deflecting field shall be present.								
l	2.0	Adj.	12	150	<u>Useful screen area</u>			
Adjust for optimum focus Deflections to cover stated circle centred on centre of screen.					Diameter (mm)	273	-	100%
m	2.0	Adj.	12		Line width (mm)	-	0.8	100%
Adjust for optimum focus <u>Deflection</u> - with a linear scan of 10kc/s and a line length of 273 mm. 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 d1, the nominal value of the pulse duration and repetition rate being 100 μ secs. and 100 c/s respectively.								

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