

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

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|--|----------------------|--------------|
| Specification MOSA/CV432 Issue 3 Dated 20.4.55 To be read in conjunction with B.S.448, B.S.1409 & K.1001 | <u>SECURITY</u> | |
| | <u>Specification</u> | <u>Valve</u> |
| | UNCLASSIFIED | UNCLASSIFIED |

—————> Indicates a change

| | | | | | |
|---|--------|------|--------------------------|-----------|------|
| TYPE OF VALVE - H.F. Pentode CATHODE - Indirectly Heated ENVELOPE - Glass, Metallised PROTOTYPE - VX8048 | | | <u>MARKING</u> | | |
| | | | See K.1001/4. | | |
| | | | <u>BASE</u> | | |
| | | | B.S.448/10. | | |
| <u>RATING</u> | | | <u>TOP CAP</u> | | |
| (All limiting values are absolute) | | | B.S.448/CT1. | | |
| | | | <u>CONNECTIONS</u> | | |
| | | | Pin | Electrode | |
| Heater Voltage | (V) | 6.3 | 1 | M | |
| Heater Current | (A) | 0.2 | 2 | h | |
| Max. Anode Voltage | (V) | 300 | 3 | a | |
| Max. Screen Grid Voltage | (V) | 125 | 4 | g2 | |
| Max. Anode Dissipation | (W) | 1.0 | 5 | g3 | |
| Max. Screen Grid Dissipation | (W) | 0.3 | 6 | NC | |
| Mutual Conductance | (mA/V) | 1.8 | 7 | h | |
| Anode Impedance | (MΩ) | 2.0 | 8 | k | |
| Max. Operating Frequency | (Mc/s) | 125 | TC | g1 | |
| | | | Note | | |
| | | | A | | |
| | | | A | | |
| <u>CAPACITANCES (pF)</u> | | | <u>DIMENSIONS</u> | | |
| C in | | 5.5 | See K.1001/A1/D1. | | |
| C out | | 8.5 | | | |
| Ca, g1 | | 0.02 | | | |
| | | | Dimensions (mm) | Min. | Max. |
| | | | A | 95 | 100 |
| | | | B | - | 32 |
| | | | C | - | 30 |
| | | | <u>MOUNTING POSITION</u> | | |
| | | | Any | | |

NOTES

- A. Measured at Va = 250V; Vg2 = 100V; Vg1 = -2V.
- B. This valve is similar to CV358, but it is specially selected for extremely low grid current.

To be performed in addition to those applicable in K.1001.

| Test Conditions | | | | | | | Test | Limits | | No. Tested | Note | | | |
|---|---|--|-----|-----|-----|---------|-------------------------|--------|--------------------|--------------|------|---------------|--------------------|-----------------|
| | | | | | | | | Min. | Max. | | | | | |
| See K.1001/AIII Measurements to be made in Adaptor Type 44, Ref. No. 10A/13340 | | | | | | | <u>Capacitance</u> (pF) | | | | | | | |
| | | | | | | | | | | | | Links to H.P. | Links to L.P. | Links to E |
| | | | | | | | | | | | | TC1 | 1,2,4,5,6, 7,8. | 3,9,10, TC2. |
| C in | | | | | | | | - | 7 | 100% | | | | |
| b | Vh | Vg1 | Vg2 | Vg3 | Va | Ia | Ih (A) | 0.18 | 0.22 | 100% or S | | | | |
| | 6.3 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| c | 6.3 | 30V A.C. R.M.S. (50 c/s) applied to anode, g1, g2 and g3 strapped. | | | | Ik (mA) | 32 | - | 100% | | | | | |
| d | 6.3 | -2.0 | 100 | 0 | 250 | - | Reverse Ig1 (μA) | - | 0.7 | 100% | 1 | | | |
| e | 6.3 | -3.5 | 100 | 0 | 250 | - | Ia (mA) | 0.5 | 1.5 | 100% | | | | |
| f | 6.3 | 0 | 100 | 0 | 250 | - | Ia (mA) | 5.7 | 9.3 | 100% | | | | |
| g | 6.3 | -7.5 | 100 | 0 | 250 | - | Ia (μA) | - | 50 | 100% | 2 | | | |
| h | Grid Leak = 0.5 mΩ; Va = 250V through 0.1 mΩ; Cathode R = 3kΩ; Vg2 = 250V through 0.25 mΩ; g2 by-pass C = 0.5 μF; Anode Coupling C = 0.1 μF | | | | | | Microphony (mV) | - | 15 | 100% | 3 | | | |
| j | 4.5 | - | 50 | 0 | 50 | 150 μA | Vg1 (V) | -1.5 | -2.5 | 100% | | | | |
| k | 4.5 | - | 50 | 0 | 50 | 150 μA | Ig1 (μA) | - | 8x10 ⁻⁶ | 100% | 4 | | | |

For Notes, see page 3.

NOTES

1. Carried out with $0.1\text{M}\Omega$ in Control Grid circuit.
2. Carried out with $1.0\text{M}\Omega$ in Anode circuit.
3. The valve shall be mounted in an agreed acoustic chamber, having the speaker mounted at one end facing inward, with the valve under test mounted at the other end. The valve under test shall be coupled to an audio amplifier having an input impedance = $0.1\text{ m}\Omega$ and a frequency response characteristic between 60 and 5,000 c/s flat with $\pm 2\text{ dB}$ of the 400 c/s response. The output of the amplifier shall be fed to the speaker, and the output voltage shall be indicated by an R.M.S. voltmeter. On tapping with the finger, no perceptible noise other than normal valve hiss shall be evident, and the output from the valve as indicated by the amplifier voltmeter shall not exceed 15 mV.
4. Before carrying out test (k) the valve shall be run for not less than 48 hours under the following conditions.

$$V_h = 5\text{V}; V_a = V_{g2} = 100\text{V}; V_{g3} = 0; I_a = 1\text{ mA}.$$