

VALVE ELECTRONIC CV232

MINISTRY OF SUPPLY (S.R.D.E.)

| | | |
|---|------------------------------------|------------------------------|
| Specification: MOS/CV232/Issue 2 Dated:- 17.8.48. To be read in conjunction with K1001. Ignoring clauses:- 5.2, 5.3, 5.7 and 5.8. Clause 7.3 applies. | <u>SECURITY</u> | |
| | <u>Specification</u> Restricted | <u>Valve</u> Unclassified |

→ indicates a change

| | | | |
|--|------|---|--|
| <u>TYPE OF VALVE:-</u> Resonant magnetron, air cooled. <u>CATHODE:-</u> Indirectly heated <u>ENVELOPE:-</u> Metal - glass <u>PROTOTYPE:-</u> BTH type MF selected as a temporary measure for use only in certain A.A. No.3 Mk. II sets as specified (c.f CV120) | | <u>MARKING</u> See K1001/4 Serial No.... See Note 1. | |
| <u>RATING</u> | Note | <u>BASE</u> None | |
| Heater voltage (V) 6.0 Heater current (A) 7.0 Max. anode dissipation(W) 1000 Wavelength (cms) 10.70 ±0.2 | 1 | Connections and Dimensions as for CV120. | |

TESTS

To be performed in addition to those applicable in K1001

| | Test Conditions | Test | Limits | | No. Tested | Notes |
|---|---|--|--|-------|------------|-------|
| | | | Min | Max | | |
| a | Filament voltage 6.0 volts | If (A) | 6.3 | 7.7 | 100% | |
| b | Peak Ia 40 amps. Magnetic field 1200 oersteds. | Peak anode voltage (kV) | - | 27 | 100% | 3 |
| c | Peak Ia 40 amps. Magnetic field 1200 oersteds. | (i) Value of wavelength (ohms) | 10.49 | 10.91 | 100% | 1,3 |
| | | (ii) Presence of one wave- length. | With matching adjustments as in Note 3, page 3, only 1 wavelength shall be gen- erated either during each pulse or during successive pulses and this wave- length shall be within the limits of wavelength laid down in c(i) | | 100% | 3 |
| d | Peak Ia 40 amps. Magnetic field 1200 oersteds. | Value of power output (kW) | 100 | 220 | 100% | 3 |
| e | (i) Peak Ia 40 amps. Magnetic field varied from 1150 to 1300 oersteds. (ii) Magnetic field 1200 oersteds. Peak Ia varied from 30 to 50 amps. | Wavelength continuity | Wavelength shall show no sudden dis- continuities. | | 5% | 3,4 |

NOTES

1. The valve shall be marked according to the wavelength band in which it falls, viz:-

| Wavelength | | Marking |
|------------|-----|----------|
| 10.56+0.07 | cms | CV 232 A |
| 10.70+0.07 | cms | CV 232 B |
| 10.84+0.07 | cms | CV 232 C |

Where CV 232 is specified without qualification, valves with any of these markings will be accepted.

2. These operating conditions refer to a sensibly square pulse shape, 1 microsecond duration, repetition rate 500 cycles per second (max.), and during operating and testing air must be blown through a fitting surrounding the fins. In no case shall the temperature of the anode exceed 140°C.

3. The test equipment is to be subject to approval by R.R.D.E., Ministry of Supply. The modulator is required to give sensibly square pulses of 1 microsecond duration and a repetition frequency of 420 \pm 46 c.p.s. and modulators type A 453 or AS 442 are recommended as giving a suitable waveform.

In all tests (a) filament voltage = 6 volts, (b) air is to be blown through the anode fins to maintain the anode temperature below 140°C. (c) serious or continued flashing (internal or external) must not occur.

The power output shall be measured in a high frequency load system of a type consisting of a matching section electrically similar to that used in A.A. No. 3 Mk.II equipment followed by a length of concentric line of 40 ohm impedance (internal diameter of outer tubing 15/16 inch) terminated to give a standing wave ratio in voltage of less than 1.3 to 1. The matching section shall be adjusted to give highest power output and tests b, c, d and e must be done with this setting. (If this adjustment of the matching section leads to a serious number of rejections on tests c(ii) and e the test specification may be modified to allow a limited variation about this setting. In such cases the valve would have to satisfy tests b, c, d and e for a single setting of the matching section controls).

4. The figure of 5% may be modified depending on the number of rejects.