MINISTRY OF SUPPLY - DLRD(A)/RRE (South)

VALVE ELECTRONIC **CV1881**

| Specification MOS(A)/CV1881 | SECURITY | |
|---|---|---|
| | Specification | Valve |
| Issue 4 Dated 24. 6. 55 | | |
| To be read in conjunction with K1001 | UNCLASSIFIED | UNCLASSIFIED |

→ Indicates a change

TYPE OF VALVE - Argon-filled Noise Tube

CATHODE - Directly-heated

ENVELOPE - Glass

PROTOTYPE - VX4144

**MARKING**

See K1001/4

**BASE & CONNECTIONS**

See Drawing on Page 3

**DIMENSIONS**

See Drawing on Page 3

**MOUNTING POSITION**

Any

**RATING**

| | | | Note |
|---|---|---|---|
| Filament Voltage | (V) | 6.3 | |
| Filament Current | (A) | 0.4 | |
| Striking Voltage on DC | (V) | 1000 | A |
| Normal Operating Voltage (Ia=180mA) | (V) | 60 | |
| Max. Operating Current | (mA) | 250 | |
| Nom. Continuous Operating Current | (mA) | 180 | B |
| Nom. Noise Power Available (Ia=180mA) | (db) | 15.5 | C |
| Nom. Noise Power Output Change with Current | (db/mA) | -0.005 | |
| Nom. Useful Working Frequency Range | (Mc/s) | 3000 to 12000 | |
| Nom. Gas Pressure | (mm) | 30 | |

**NOTES**

A. With earthed metal sheath.

B. The discharge current should be adjusted for optimum matching conditions but must not fall below 160 mA if instability is to be avoided.

C. Relative to thermal noise at 17°C

To be performed in addition to those applicable in K1001

| | Test | Test Conditions | AQL % | Insp. Level | Sym-bol | Limits Min. | Limits Max. | Units |
|---|---|---|---|---|---|---|---|---|
| a | Filament Current | Vf = 6.3V<br>Note 1 | 6.5 | I | If | 0.35 | 0.45 | A |
| b | VSWR | Vf = 6.3V<br>f = 9375 ± 5Mc/s<br>Note 2 | 6.5 | I | | 0.95 | - | - |
| c | Insertion Loss | Vf = 0<br>f = 9375 ± 5Mc/s<br>Note 3 | 6.5 | I | | - | 0.25 | db |
| → d | Torque<br>Applied to each cap | See K1001/12.3 | 6.5 | I | | - | 1.5 | in-lb |

NOTES

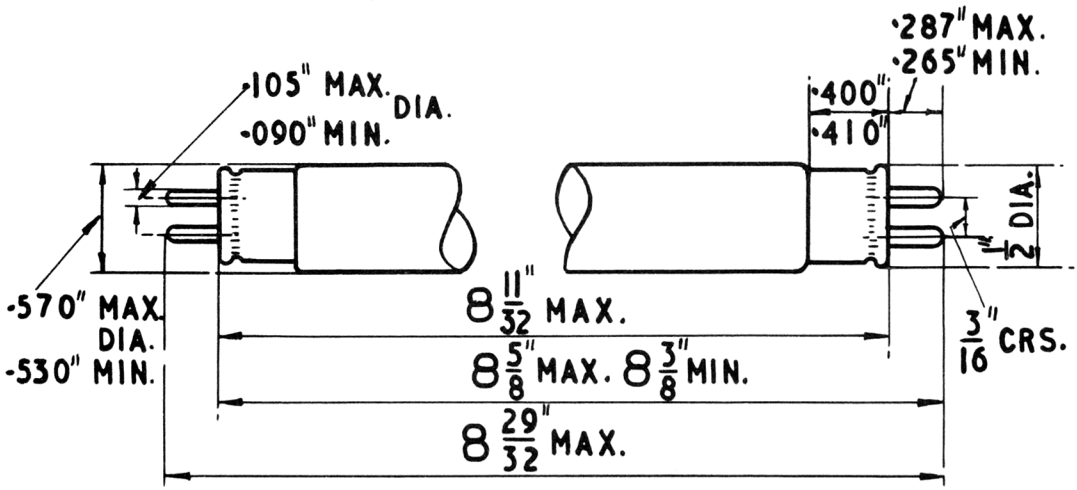
1. The valve shall be pre-heated for 15 secs before performing the test. The test shall be applied to each filament in turn.

2. The valve shall be inserted into an approved 15° E-plane mount on a No. WG16 waveguide system and terminated in a matched load. The empty mount shall be screw-tuned to give a VSWR of at least 0.98 : 1. The valve shall be operated at a discharge current of 180 ± 5mA. The power shall be derived from a matched source through an attenuation of at least 6 db.

3. The valve shall be inserted into an approved 15° E-plane mount on a No. WG16 waveguide system and terminated with a matched detector.
   Using an empty mount and not more than 1.0 mW RF derived from a matched source through an attenuation of at least 6 db, the detector reading shall be noted. The valve shall remain inert.

# CV 1881

## 9" NOISE SOURCE TUBE. OUTLINE DIMENSIONS.




NOTE:- 1. THE PINS SHOULD ENTER A GAUGE CONSISTING OF TWO HOLES ·110" DIA. AT ·1875" CENTRES.

NOTE :-2. VALVE TO PASS THROUGH A TUBULAR GAUGE OF 0·610" INT. DIA. AND LENGTH 8 INCHES.

## TEST MOUNT.