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

VALVE ELECTRONIC

# CV2163

| Specification MOSA/CV2163<br>Issue 1 Dated 12.6.1953<br>To be read in conjunction with K1001 | SECURITY<br>Specification: UNCLASSIFIED<br>Valve: UNCLASSIFIED |
|---|---|

——————► Indicates a change

TYPE OF VALVE - Disc Seal Common Grid Triode

CATHODE - Indirectly Heated

ENVELOPE - Copper, Glass

PROTOTYPE - VX.3071

MARKING

See K1001/4

| RATING | | Note |
|---|---|---|
| Heater Voltage (V) | 16.0 | |
| Heater Current (A) | 7.3 | |
| Max. Pulse Anode Voltage (kV) | 11.0 | E |
| Max. Anode Dissipation (W) | 1500 | B |
| Max. Mean Anode Current During Pulse (A) | 50 | |
| Amplification Factor | 45 | C |
| Mutual Conductance mA/V | 50 | C |
| Max. Pulse duration (μsecs) | 5 | |

DIMENSIONS & CONNECTIONS

(See Note D)

See drawing on Page 3

| CAPACITANCES (pf) | |
|---|---|
| Cag | 28 |
| Cge | 30 |
| Cae | 0.5 |

NOTES

A. The above ratings are for Pulse operation only.

B. For this dissipation forced air cooling shall be provided by not less than 150 cubic feet of air per minute through the anode cooler with a pressure drop of the order of 3" of water, and approx. 20 C.F.M. of air through the grid cooler. The temperature on the outside of the anode flange, on the inner edge of the grid disc and on the base of the cathode connector shall not exceed 100°C. These conditions apply for ambient temperatures up to 30°C. Air must be flowing before the power is switched on, and it is recommended that the flow be continued for approx. 2 min. after power is switched off.

C. Measured at Va = 1.5kV; Ia = 0.8A.

D. A rigid connection must be made to anode or grid only.

E. This voltage must not be exceeded under any condition.

To be performed in addition to those applicable in K1001

| | Test Conditions | | | | Test | Limits Min. | Limits Max. | No. Tested | Note |
|---|---|---|---|---|---|---|---|---|---|
| a | Measurements to be made at a frequency of 1.0 Mc/s | | | | Capacitances(pF)<br>Cag<br>Cge<br>Cae | <br>23.4<br>25.4<br>- | <br>31.7<br>34.4<br>1.0 | <br>6 per month | |
| | Vf | Vg | Va | Ia(mA) | | | | | |
| b | Valve to be run under agreed pulse conditions in an approved circuit | | | | | | | | |
| c | 16 | 0 | 0 | 0 | If (A) | 6.6 | 8.0 | 100% | |
| d | 16 | adjust | 1,500 | 1,000 | Reverse Ig (uA) | | 100 | 100% | 2 |
| e | 16 | adjust | 1,500 | 800 | Vg | -5.0 | -20.0 | 100% | 2 |
| f | 16 | adjust Peak grid swing ± 1V | 1,500 | 800 | gm (mA/V) | 35 | | 100% | 2 |
| g | 16 | adjust | 1,700 | 800 | Vg change from value found in test(d) (V) | 3.7 | 5.5 | 100% | 2 |
| h | 16 | adjust | 1,500 | 25 | Vg (V) | | -70 | 100% | 2 |
| j | 12 | Anode and grid strapped. Peak applied voltage=750, Tp = 2μsec. pulse shaped sinusoidal. p.r.f.= 50 c/s | | | Peak Emission(A) | 30 | | 100% | 2 |

NOTES

1. Test (b) forms part of the processing of this valve, and having been met during manufacture, shall not be repeated for acceptance testing.

2. For these tests forced air-cooling not greater than the minimum required in Note B on Page 1 shall be used.

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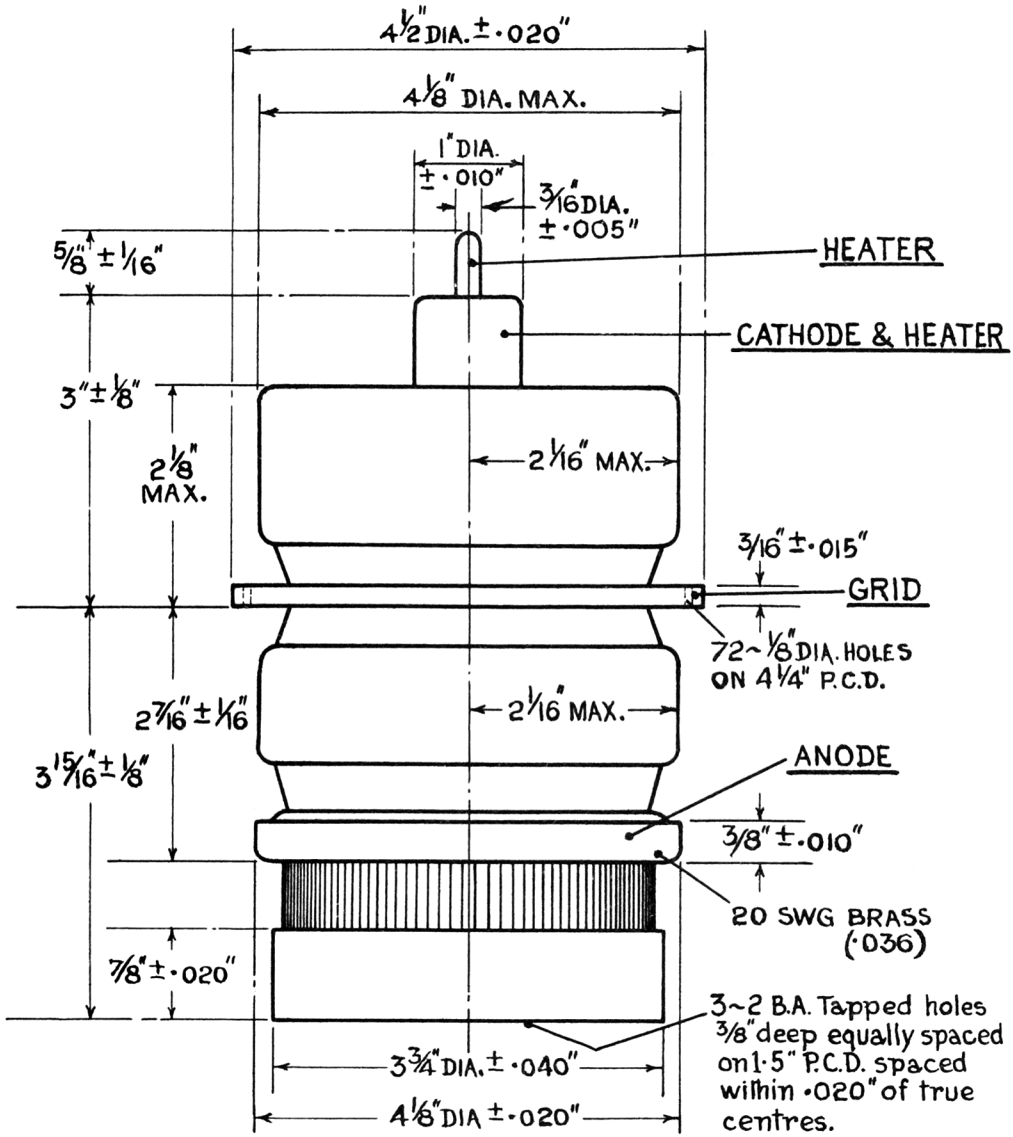


## NOTES

1. All external contact surfaces to be rhodium plated.
2. Rigid connection to be made to anode or grid only.
3. The finished valve will be examined for alignment of anode, grid, cathode, and heater contacts, and will be rejected if undue eccentricity exists. A test for this feature to be agreed.