

|                                                                                              |                                                                                                                                                                  |                      |              |              |              |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|--------------|--------------|
| Specification MOSA/CV133<br>Issue 5 Dated 27.4.1953<br>To be read in conjunction with K.1001 | <u>SECURITY</u><br><table border="1"> <tr> <td><u>Specification</u></td><td><u>Valve</u></td></tr> <tr> <td>UNCLASSIFIED</td><td>UNCLASSIFIED</td></tr> </table> | <u>Specification</u> | <u>Valve</u> | UNCLASSIFIED | UNCLASSIFIED |
| <u>Specification</u>                                                                         | <u>Valve</u>                                                                                                                                                     |                      |              |              |              |
| UNCLASSIFIED                                                                                 | UNCLASSIFIED                                                                                                                                                     |                      |              |              |              |

→ Indicates a change

|                                                |  |  |  |                       |  |  |
|------------------------------------------------|--|--|--|-----------------------|--|--|
| TYPE OF VALVE - Triode                         |  |  |  | <u>MARKING</u>        |  |  |
| CATHODE - Indirectly Heated                    |  |  |  | See K1001/4           |  |  |
| ENVELOPE - Glass-umetallised                   |  |  |  | <u>BASE</u>           |  |  |
| PROTOTYPE - 6C4                                |  |  |  | B7G                   |  |  |
| <u>RATING</u>                                  |  |  |  | <u>CONNECTIONS</u>    |  |  |
|                                                |  |  |  | Note                  |  |  |
|                                                |  |  |  | Pin                   |  |  |
|                                                |  |  |  | Electrode             |  |  |
| Heater Voltage (V) 6.3                         |  |  |  | 1 Anode               |  |  |
| Heater Current (A) 0.15                        |  |  |  | 2 Internal Connection |  |  |
| Max. Anode Voltage (V) 330                     |  |  |  | 3 Heater              |  |  |
| Max. Anode Dissipation (W) 3.8                 |  |  |  | 4 Heater              |  |  |
| Mutual Conductance (mA/V) 2.2                  |  |  |  | 5 Anode               |  |  |
| Amplification Factor 17.0                      |  |  |  | 6 Grid                |  |  |
| Max. Frequency of Operation (Mc/s) 150         |  |  |  | 7 Cathode             |  |  |
| Max. Cathode Current (mA) 21                   |  |  |  |                       |  |  |
| <u>CAPACITANCES (pF)</u>                       |  |  |  | <u>DIMENSIONS</u>     |  |  |
| Cae 3.0                                        |  |  |  | See K1001/A1/D4       |  |  |
| Cge 2.0                                        |  |  |  |                       |  |  |
| Cag 1.55                                       |  |  |  |                       |  |  |
|                                                |  |  |  | Dimensions            |  |  |
|                                                |  |  |  | Min.                  |  |  |
|                                                |  |  |  | Max.                  |  |  |
|                                                |  |  |  | A mm                  |  |  |
|                                                |  |  |  | B mm                  |  |  |
|                                                |  |  |  | L mm                  |  |  |
|                                                |  |  |  | F mm                  |  |  |
|                                                |  |  |  | 34.04                 |  |  |
|                                                |  |  |  | 54.01                 |  |  |
|                                                |  |  |  | 19.05                 |  |  |
|                                                |  |  |  | 47.75                 |  |  |
|                                                |  |  |  | 42.16                 |  |  |
| <u>NOTE</u>                                    |  |  |  |                       |  |  |
| A. Measured at $V_a = 250$ , $V_{g1} = -8.5$ . |  |  |  |                       |  |  |

To be performed in addition to those applicable in K1001.

|   | Test Conditions                                                                   |                  |                                  | Test                     | Limits |       | No. Tested        | Note |
|---|-----------------------------------------------------------------------------------|------------------|----------------------------------|--------------------------|--------|-------|-------------------|------|
|   |                                                                                   |                  |                                  |                          | Min.   | Max.  |                   |      |
| a | See K.1001/AlII<br>Measurements to be made in<br>adapter type 124, Ref.No.10AD/9. |                  |                                  | <u>CAPACITANCES (pF)</u> |        |       |                   |      |
|   | Links to<br>H.P.                                                                  | Links to<br>L.P. | Links to<br>E.                   |                          |        |       |                   |      |
|   | 1,5.                                                                              | 2,3,4,7,<br>8,9. | 6,10,<br>TC1, TC2.               | Cae                      | 2.4    | 3.6   | 6                 |      |
|   | 6                                                                                 | 2,3,4,7,<br>8,9. | 1,5,10,<br>TC1, TC2.             | Cge                      | 1.5    | 2.5   | per               | 1    |
|   | 1,5.                                                                              | 6                | 2,3,4,7,<br>8,9,10,<br>TC1, TC2. | Cag                      | 1.15   | 1.95  | week              |      |
| b | Vh                                                                                | Va               | Vg                               | Ih (A)                   | 0.138  | 0.162 | 100%<br>or S      |      |
|   | 6.3                                                                               | 0                | 0                                |                          |        |       |                   |      |
| c | 6.3                                                                               | 250              | -8.5                             | Ia (mA)                  | 6.5    | 14.5  | 100%              |      |
| d | 6.3                                                                               | 250              | -8.5                             | Reverse Ig1 (μA)         | -      | 1.5   | 100%              |      |
| e | 6.3                                                                               | 250              | -8.5                             | gm (mA/V)                | 1.75   | 2.65  | 100%              |      |
|   | Peak grid swing +0.5V max.                                                        |                  |                                  |                          |        |       |                   |      |
| f | 6.3                                                                               | 250              | -8.5                             | μ                        | 15.5   | 18.5  | 20 per<br>week    |      |
|   | Peak grid swing adjusted to<br>maintain constant Ia                               |                  |                                  |                          |        |       |                   |      |
| g | 6.3                                                                               | 250              | -30                              | Ia tail (μA)             | -      | 50    | 100%              |      |
| h | 6.3                                                                               | 100              | 0                                | gm (mA/V)                | 2.50   | 4.0   | 20 per<br>week    |      |
| j | 5.5                                                                               | 100              | 0                                | gm (mA/V)                | 2.40   | -     | 20 per<br>week    |      |
| k | 6.3                                                                               | 30               | 30                               | Emission (mA)            | 70.0   | -     | 100%              | 2    |
| m | 6.3                                                                               | 300              |                                  | <u>Oscillation Test</u>  |        |       |                   |      |
|   | Frequency = 150 Mc/s<br>Rg = 8,500 ohms                                           |                  |                                  | Output (W)               | 1.8    | -     | 20<br>per<br>week | 3    |

NOTES

1. Measured with a close fitting metal shield.
2. Test Voltages applied only for sufficient time to obtain a steady reading.
3. An average valve shall be set to give Ia = 25 mA by adjusting the load/tank circuit coupling while the load is simultaneously tuned to give maximum power output.

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## Valve Electronic Type CV 133

### TYPICAL OPERATING CONDITIONS.

#### As Class A1 A.F. Amplifier

|                      |      |      |       |
|----------------------|------|------|-------|
| Anode Voltage        | 100  | 250  | Volts |
| Anode Current        | 11.8 | 10.5 | mA    |
| Grid (G1) Voltage    | 0    | -8.5 | Volts |
| Amplification Factor | 19.5 | 17   | -     |
| Anode Impedance      | 6250 | 7700 | Ohms  |
| Mutual Conductance   | 3.1  | 2.2  | mA/V  |

Under maximum rated conditions, the grid/cathode circuit resistance should not exceed 0.25 megohms with fixed bias, or 1.0 megohm with cathode resistor bias.

#### As R.F. Amplifier and Oscillator - Class C Telegraphy

|                     |               |       |
|---------------------|---------------|-------|
| Anode Voltage       | 300           | Volts |
| Grid (G1) Voltage   | -27           | Volts |
| Anode Current       | 25            | mA    |
| Grid Current (D.C.) | 8.0 (max)     | mA    |
| Driving Power       | 0.35 (approx) | Watts |
| Power Output        | 5.5 (approx)  | Watts |

As an oscillator at 150 Mc/s, approximately 2.5 watts output is obtained with a grid circuit resistance of 10,000 ohms and maximum rated input.

Mounting Position - Any.

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