### VALVES ELECTRONIC

# ₹**₩**158A

## MINISTRY OF AIRCRAFT PRODUCTION (D.C.D.)

CV 1 058 158

Specification D.C.D., W.T.1306
Issue No.5. Dated 10.3.45.
To be read in conjunction with K1001, ignoring clauses: - 5.2, 5.8.

Security
Specification
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|          | TYPE OF VALVE :- Transmitt  CATHODE :- Directly Tungsten  ENVELOPE :- Metal - G Construct  COMMERCIAL PROTOTYPE :- E.  | MARKING  VT58  VT58A  Ø  or  0  10E/11405  Serial Number  Serial Number  This space to contain the  marked voltage as found in |      |   |  |  |  |  |
|----------|--|--|------|---|--|--|--|--|
|          | RATING   |  | Note | Test Clause 'f'.  |  |  |  |  |
| <b>A</b> | Filament Voltage (V).  Marked Voltage Approx.  Filament Current (A).  Maximum Anode Dissipation (W).  Maximum Anode Voltage (kV).  The valve is capable of operation at frequencies up to 100 Mc/s. and with | 12.6<br>58<br>750<br>23  | A    | DIMENSIONS AND CONNECTIONS  See Page 3.                                     |  |  |  |  |
|          | suitable precautions up to 250 Mc/s.  CAPACITANCES (pf.)  Cag Cgf  | 6.8<br>8.1   |      | PACKING  According to K1001/7.3.  Additional marking :-  "Glass - Fragile". |  |  |  |  |

#### NOTE

A. For this dissipation forced air cooling shall be provided by not less than 90 cu.ft. of air per minute with a pressure drop across the valve of the order of 2-inches of water.

# VT58 & VT58A

#### TESTS

To be performed in the order specified and are additions to those applicable in K1001.

|    | Test Conditions   |             |  | program gas hutgas nas has sau nur norman norman des destructuras de servicios de s | Limits                |                | %       | Notes                       |                 |
|----|-------------------|-------------|--|--|-----------------------|----------------|---------|-----------------------------|-----------------|
|    | ٧r                | Va          | Vg   | Ia (mA)  | Test                  | Min.           | Max.    | Tested                      | Notes           |
| FO | rced air co       | oling of th | e anode sha  | ll be provid   | ed by not more than   | 90 cu          | .ft. o  | f air pe                    | al.             |
| m  | inute with        | a pressure  | drop across  | the valve  | of the order of 2-inc | ches of water. |         |                             |                 |
| a  | 0                 | Raised      | 0  | 0  | Cold Flash Process.   |                |         | 100%                        | 1,2             |
|    |                   | slowly      |  |  | Va maintained at      |                |         |                             |                 |
|    |                   | from        |  |  | 27 kV. for a period   |                |         |                             |                 |
|    |                   | 10 kV. to   |  |  | of 5 mins. without    |                |         |                             |                 |
|    |                   | 27 kV.      |  |  | further flashing.     |                |         |                             |                 |
|    |                   | and main-   |  |  |                       |                |         |                             |                 |
|    |                   | tained      |  |  |                       |                |         |                             |                 |
|    |                   | till        |  |  |                       |                |         |                             |                 |
|    | 2                 | flashing    |  |  |                       |                |         |                             |                 |
|    |                   | ceases.     |  |  |                       |                |         |                             |                 |
| b  | 13.0              | Raised      |  | A trace.   | Hot Flash Process.    |                |         | 100%                        | 1,2             |
|    |                   | slowly      |  |  | Va maintained at      |                |         |                             |                 |
|    |                   | from        |  |  | 31 kV. for a period   |                |         |                             |                 |
|    |                   | 10 kV. to   |  |  | of 5 mins. without    |                |         |                             |                 |
|    |                   | 31 kV.      |  |  | further flashing.     |                |         |                             |                 |
| ١  |                   | and main-   |  |  |                       |                |         |                             |                 |
|    |                   | tained      |  |  |                       |                |         |                             |                 |
|    |                   | till        |  |  |                       |                |         |                             |                 |
|    |                   | flashing    |  |  |                       |                |         |                             |                 |
|    |                   | ceases.     |  |  |                       |                |         |                             |                 |
| c  | 13.0              | 7 kV.       | -  | 100  | Reverse ig. Spot      |                | 250     | 100%                        |                 |
|    |                   |             |  |  | reading (UA)          |                |         | Parish vaccing in consumers |                 |
| d  | 13.0              | 7 kV. re-   | -  | Maintained   | Vg Change (V)         | 44             | 60      | 5%                          |                 |
|    |                   | duced to    |  | at 100。  |                       |                |         | (4)                         |                 |
|    |                   | 5 kV.       |  |  |                       |                |         |                             |                 |
| е  | 13.0              | 275         | 275  | -  | Ic (A)                | 0.87           | 1.15    | 100%                        |                 |
| f  | -                 | 1 kV.       | 1 kV.  | 1c = 450   | Vf (V). This value    |                | 9.2     | 100%                        |                 |
|    |                   |             |  |  | of Vf times 1.45 is   |                |         |                             |                 |
|    |                   |             |  |  | to be the marked      |                |         |                             |                 |
|    | Variend           | 0           |  |  | voltage.              |                | 64      | 100%                        | amounter Samuel |
| g  | Marked            | ١           | 0  | _  | If (A)                | 52             | 04      | 100%                        |                 |
| h  | Voltage<br>Marked | 7 kV.       | •  | 100  | Reverse Ig. Spot      |                | 250     | 100%                        |                 |
| n  | Voltage           | / P-A ·     |  | 100  | reading (UA)          |                | الروء ا | {(01.76                     |                 |
| j  | TOTORE            |             | British (1984) de ferde a ritor do de Tantino arrivolario. |  | Capacitances (pF.)    |                |         | 6                           |                 |
| ٦  |                   |             |  |  | 1. Cag                | 5.1            | 8.5     | per                         |                 |
|    |                   |             |  |  | 2. Cgf                | 6.9            | 9.3     | week                        |                 |
|    |                   |             |  |  | 761                   | 10.7           | 202     | HOCK                        |                 |

#### NOTES

- Test clause 'a' applies only to valves Type VT58 and test clause 'b' applies only to valves Type VT58A.
- 2. Once the conditions specified in either test clause 'a' or test clause 'b' have been met, they need not be repeated for acceptance testing. For test clauses 'a' and 'b' there shall be a 300 ohms resistor in series with the applied volts, and a capacitance not greater than 0.25/uF. in parallel with the supply volts on the supply side of the resistor.

VT58 & VT58A CV 1 058 OUTLINE DIMENSIONS APPROX FILAMENT CONNECTORS 13 APPROX APPROX IGAPPROX 1 × 1 × 29 -0 6 APPROX SEE NOTE !, I STRIP OF COPPER BRAID COMPOSED OF TWO PIECES OF 24/18/40 SWG. TUBULAR. BRAID, ONE WITHIN THE OTHER. 89-16 MAX 80-64 MIN ANODE 25 APPROX 50-9 MAX 50.7 MIN 142 MAX 85-7 APPROX 140 MIN GRID 38 MAX 89 CONNECTOR 36MIN APPROX 294 MAX 272 MIN 29 DIA APPROX' SAPPROX 130 MAX 95 APPROX 124 MIN NOTES I. IN TRANSIT, CRID CONNECTOR SHOULD BE DETACHED FROM THE 259 MAX. THE CRIDSEAL, AND SHOULD BE 249 MIN. ATTACHED TO METAL WORK OF VALVE, OR INSIDE OF PACKING CASE 95 APPROX 2. ALL DIMENSIONS IN 30 APPROX 710 MAX MILLIMETRES. 7:08 MIN VT58 & VT58A/5/111