



# AH2511

## MERCURY VAPOUR RECTIFIER

JEDEC Type 6693

### ABRIDGED DATA

Hot cathode mercury vapour rectifier

|                                     |     |        |
|-------------------------------------|-----|--------|
| Peak inverse anode voltage          | 15  | kV max |
| Peak anode current (at 15kV p.i.v.) | 12  | A max  |
| Mean anode current (at 15kV p.i.v.) | 3.0 | A max  |
| Fault anode current (0.1s max)      | 120 | A max  |
| Frequency                           | 150 | Hz max |

### GENERAL

#### Electrical

|                                                            |              |     |
|------------------------------------------------------------|--------------|-----|
| Filament                                                   | oxide coated |     |
| Filament voltage                                           | 5.0          | V   |
| Filament current                                           | 11.5         | A   |
| Filament heating time (minimum)                            | 1.0          | min |
| Voltage drop (approx)                                      | 12           | V   |
| Condensed mercury temperature rise above ambient (approx): |              |     |
| at no load                                                 | 13           | °C  |
| at 2.5A load                                               | 23           | °C  |

#### Mechanical

|                   |                                                |
|-------------------|------------------------------------------------|
| Overall length    | 308mm (12.126 inches) max                      |
| Overall diameter  | 72mm (2.835 inches) max                        |
| Net weight        | 450g (1 pound) approx                          |
| Mounting position | vertical, base down                            |
| Base              | B4D with bayonet                               |
| Top cap           | B.S.448/CT9 fitted with screw terminal adaptor |

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# **MAXIMUM OPERATING CONDITIONS (Absolute values)**

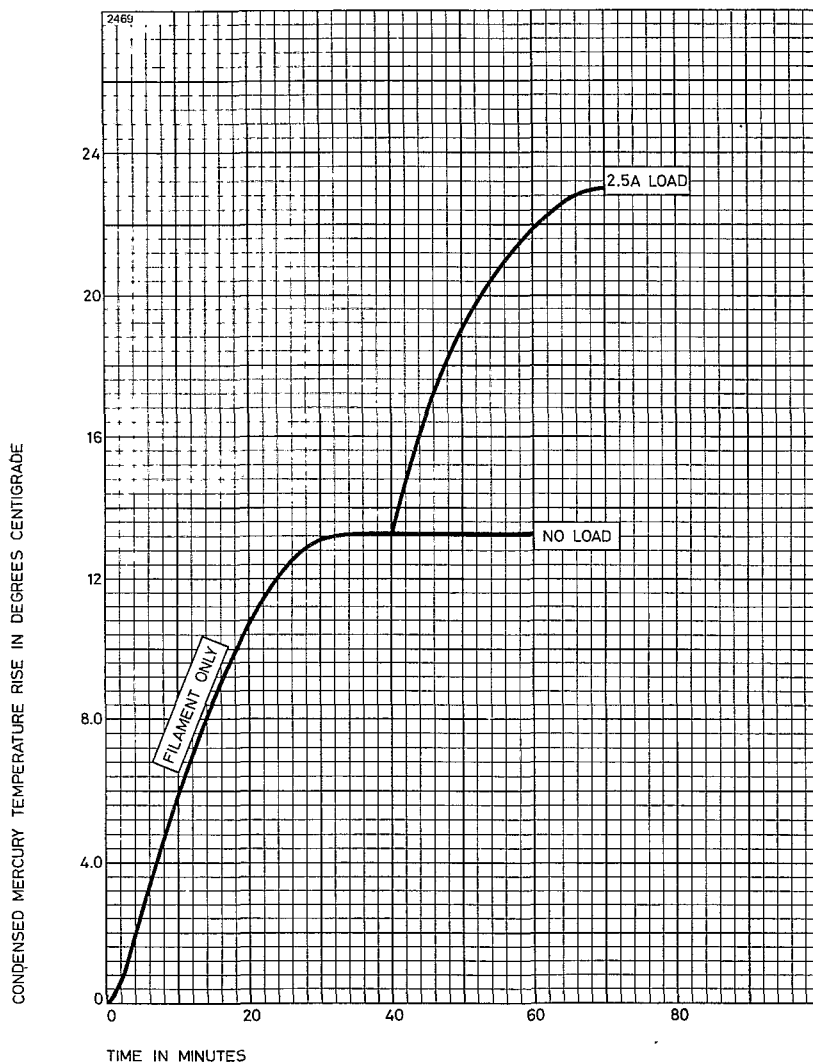
| Circuit*     | Condensed<br>mercury<br>temp.<br>(°C) | Peak<br>inverse<br>voltage<br>(50–60Hz)<br>(kV) | Anode<br>current<br>in amperes<br>peak mean♦ |     | Transformer<br>secondary<br>voltage<br>(r.m.s.)<br>(kV) | Maximum<br>d.c. output<br>(kV) (A) |     |
|--------------|---------------------------------------|-------------------------------------------------|----------------------------------------------|-----|---------------------------------------------------------|------------------------------------|-----|
| <b>A</b>     | 25–55                                 | 15                                              | 12                                           | 3.0 | 5.3                                                     | 4.8                                | 6.0 |
| Single phase | 25–60                                 | 10                                              | 12                                           | 3.0 | 3.5                                                     | 3.2                                | 6.0 |
| full wave    | 25–75                                 | 2.5                                             | 20                                           | 5.0 | 0.88                                                    | 0.8                                | 10  |
| <b>B</b>     | 25–55                                 | 15                                              | 12                                           | 3.0 | 10.6                                                    | 9.6                                | 6.0 |
| Single phase | 25–60                                 | 10                                              | 12                                           | 3.0 | 7.1                                                     | 6.4                                | 6.0 |
| bridge       | 25–75                                 | 2.5                                             | 20                                           | 5.0 | 1.77                                                    | 1.6                                | 10  |
| <b>C</b>     | 25–55                                 | 15                                              | 12                                           | 3.0 | 6.1†                                                    | 7.2†                               | 9.0 |
| Three phase  | 25–60                                 | 10                                              | 12                                           | 3.0 | 4.1†                                                    | 4.8†                               | 9.0 |
| half wave    | 25–75                                 | 2.5                                             | 20                                           | 5.0 | 1.02†                                                   | 1.2†                               | 15  |
| <b>D</b>     | 25–55                                 | 15                                              | 12                                           | 3.0 | 6.1                                                     | 14.3                               | 9.0 |
| Three phase  | 25–60                                 | 10                                              | 12                                           | 3.0 | 4.1                                                     | 9.5                                | 9.0 |
| full wave    | 25–75                                 | 2.5                                             | 20                                           | 5.0 | 1.02                                                    | 2.4                                | 15  |

\* See Typical Rectifier Circuits for Choke input filters in the preamble to the Rectifier section of the Valve Data Book.

† For operation at constant full load. If the load is reduced, the peak inverse voltage on the valves will exceed the ratings unless the transformer secondary voltage is reduced. The total reduction required is 14% at no load and the d.c. output voltage will be correspondingly reduced.

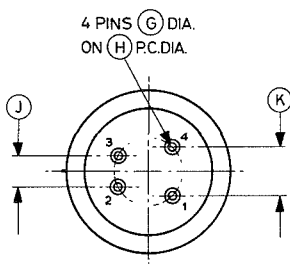
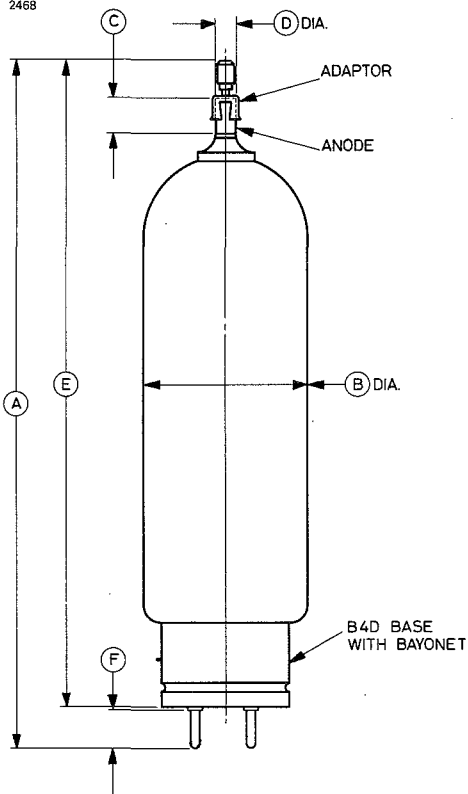
♦ Averaging time 15 seconds maximum.

## HEATING CHARACTERISTIC



# OUTLINE

2468



VIEW ON BASE

| Pin | Element       |
|-----|---------------|
| 1   | No connection |
| 2   | Filament      |
| 3   | Filament      |
| 4   | No connection |

| Ref | Inches             | Millimetres       | Ref | Inches            | Millimetres       |
|-----|--------------------|-------------------|-----|-------------------|-------------------|
| A*  | $11.811 \pm 0.315$ | $300.0 \pm 8.0$   | F   | 0.625             | 15.88             |
| B*  | 2.835 max          | 72.0 max          | G   | $0.187 \pm 0.003$ | $4.750 \pm 0.076$ |
| C   | 0.593              | 15.06             | H   | 1.000             | 25.40             |
| D   | $0.375 \pm 0.002$  | $9.525 \pm 0.051$ | J   | 0.562             | 14.27             |
| E*  | $11.122 \pm 0.236$ | $282.5 \pm 6.0$   | K   | 0.750             | 19.05             |

Millimetre dimensions have been derived from inches except where marked \*.