



# Half-Wave Gas-Filled Rectifier

Code: 3B28 (CVI835) ←

The 3B28 is a xenon-filled, half-wave rectifier designed for operation in high voltage circuits where extremes of ambient temperature are encountered.

It is well suited for mobile applications since its construction permits the valve to be mounted in any position and heaters, fans and thermostats are not required for the close control of bulb temperature.

## CATHODE

|                       |     |     |
|-----------------------|-----|-----|
| Oxide-coated filament |     |     |
| Filament voltage      | 2.5 | V   |
| Nominal current       | 5.0 | A   |
| Minimum heating time  | 10  | sec |

## MECHANICAL DATA

|                        |                               |    |
|------------------------|-------------------------------|----|
| Maximum overall length | 162                           | mm |
| Maximum bulb diameter  | 52.6                          | mm |
| Base                   | American medium 4-pin bayonet |    |
| Top cap                | CT3 with insulating collar    |    |
| Mounting position      | Unrestricted←                 |    |
| Net weight             | 120                           | g← |

## MAXIMUM RATINGS

|  |               |               |     |
|--|---------------|---------------|-----|
| Maximum peak inverse voltage           | 5             | 10            | kV  |
| Maximum peak anode current             | 2             | 1             | A   |
| Maximum average anode current          | 0.5           | 0.25          | A   |
| Maximum frequency for<br>above ratings | 500           | 150           | c/s |
| Ambient temperature range              | -55 to<br>+75 | -55 to<br>+75 | °C  |
| Maximum voltage drop                   | 14            | 14            | V←  |

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## TYPICAL OPERATING CONDITIONS

| Circuit                                     | No. of Valves | Maximum A.C. Input Voltage (V <sub>r.m.s.</sub> ) | Maximum D.C. Output Voltage (V) | Maximum D.C. Output Current (A) |
|---|---------------|---|---------------------------------|---------------------------------|
| Single Phase Full Wave Circuit No. 1        | 2             | 3535  | 3180                            | 0.5                             |
| Single Phase Full Wave Bridge Circuit No. 2 | 4             | 7070  | 6360                            | 0.5                             |
| Three Phase Half Wave Circuit No. 3         | 3             | 4080  | 4780                            | 0.75                            |
| Three Phase Double Y Parallel Circuit No. 4 | 6             | 4080  | 4780                            | 1.5                             |
| Three Phase Full Wave Circuit No. 5         | 6             | 4080  | 9570                            | 0.75                            |

The above tables suitable circuits for this rectifier, and shows their safe maximum input and output conditions. The values are based on sine wave input and the use of a suitable choke input filter.

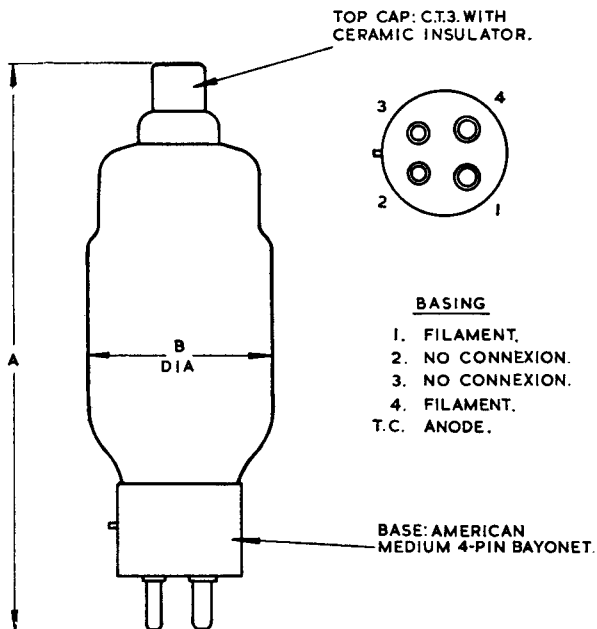
This rectifier being directly heated, it is recommended that the output circuit be taken from the mid-point of the filament supply transformer secondary winding.

For details of the circuits referred to, see sheet K—8 in the introduction to this handbook.



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| DIM. | MILLIMETRES | INCHES     |
|------|-------------|------------|
| A    | 149.10 MIN. | 5.870 MIN. |
|      | 162.05 MAX. | 6.380 MAX. |
| B    | 52.58 MAX.  | 2.070 MAX. |

NOTE: BASIC FIGURES ARE INCHES.