

# Osram Valves

Made in England



Maximum Dimensions :  
Overall length (including pins)  
125 m/m.

Diameter of bulb 45 m/m.

## TYPE MHD4

### DOUBLE DIODE TRIODE

With Indirectly Heated Cathode  
(For operation from A.C. Mains).

The OSRAM MHD4 is an Indirectly Heated Cathode Valve suitable for use on A.C. Mains, and combining double diode and triode electrode systems on a common cathode, and affording a convenient means to effect Automatic Volume Control.

The two diodes are enclosed within a metal shield joined to the cathode, providing an electrostatic screen.

In this valve rectification and amplification are separated, so that the former may be effected by means of a simple diode, and the rectified output applied to the grid of the triode element. The second diode can be employed in one of two ways:—

- (a) In conjunction with the first diode anode to provide full wave rectification of the applied signal.
- (b) In conjunction with a separate circuit to provide Automatic Volume Control.

### CHARACTERISTICS.

Heater Volts .. .. .	4.0
Heater Current .. .. .	1.0 amp. approx.
<b>Triode Characteristics:—</b>	
Anode Volts .. .. .	Max. 250 200
Grid Volts .. .. .	-3 -1
Anode Current average .. .. .	3.8 ma 2.8 ma
Amplification Factor .. .. .	40 18,200 ohms. 2.2 ma/volt (measured at anode volts 100, grid volts 0)
Impedance .. .. .	
Mutual Conductance .. .. .	

### Diode Characteristics. With 0.5 megohm diode load resistance.

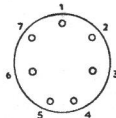
A.C. Volts R.M.S.	D.C. Volts Across Diode Load.
5	5
10	12
15	19
20	25
25	32

### Interelectrode Capacities:—

Triode Grid—Anode .. .. .	3.76 micro-microfarad approx.
Triode Grid—Cathode .. .. .	2.42 " " "
Triode Anode—Cathode .. .. .	4.64 " " "
Each diode anode—Triode grid .. .. .	0.14 " " "
Diodes—all other electrodes .. .. .	12.73 " " "

(taken on metallised valve)

For prices see  
pages 126-129.



### BASE, 7-PIN.

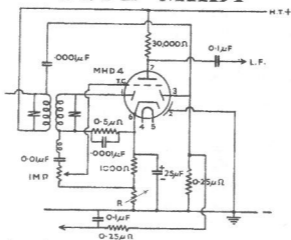
- 1: Diode
- 2: Metallising
- 3: Diode
- 4: Heater
- 5: Heater
- 6: Cathode
- 7: Anode

View looking on underside of base.

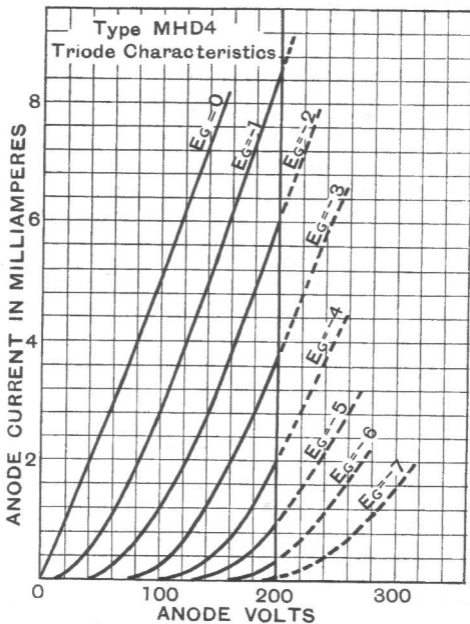
Top Cap: Grid

Type MHD4 has a carbonised bulb and can be supplied metallised if required.

# TYPE MHD4



R = Resistance for delay voltage on diode. A suitable value is 5,000 ohms.



CHARACTERISTIC CURVES OF AVERAGE VALVE.