

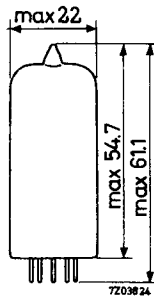
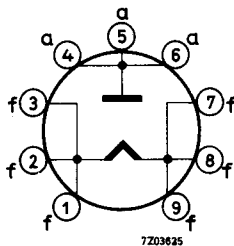
## NOISE DIODE

Noise diode for use as a standard noise source for metric waves.

### DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval



### HEATING

Direct by A.C. or D.C.

### CAPACITANCE

Anode to filament  $C_{af}$  2.2 pF

### TYPICAL CHARACTERISTICS

Filament voltage	$V_f$	1.85 V
Filament current	$I_f$	2.5 A
Anode voltage	$V_a$	100 V
Anode current	$I_a$	15 mA

### LIMITING VALUES (Absolute max. rating system)

Filament voltage	$V_f$	max. 2 V
Anode voltage	$V_a$	max. 150 V
Anode current	$I_a$	max. 20 mA
Anode dissipation	$W_a$	max. 3 W

**REMARKS**

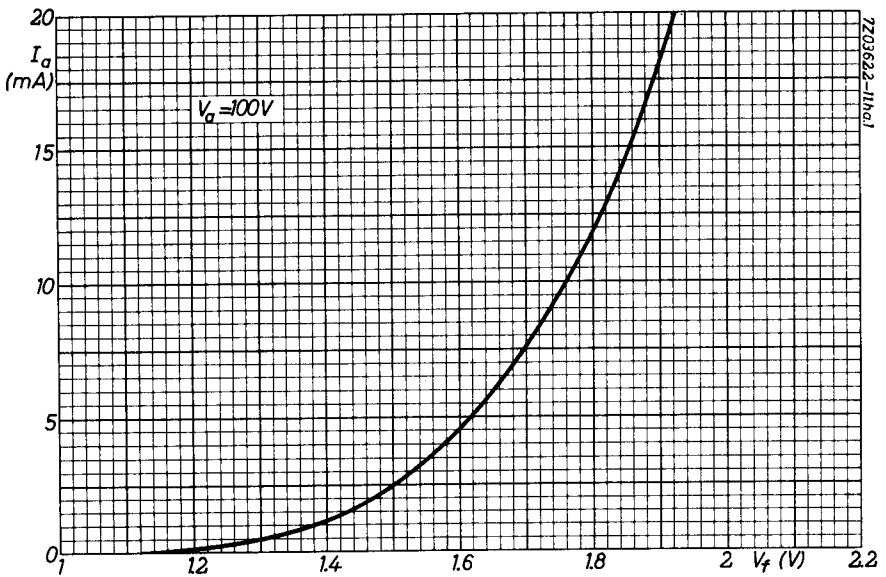
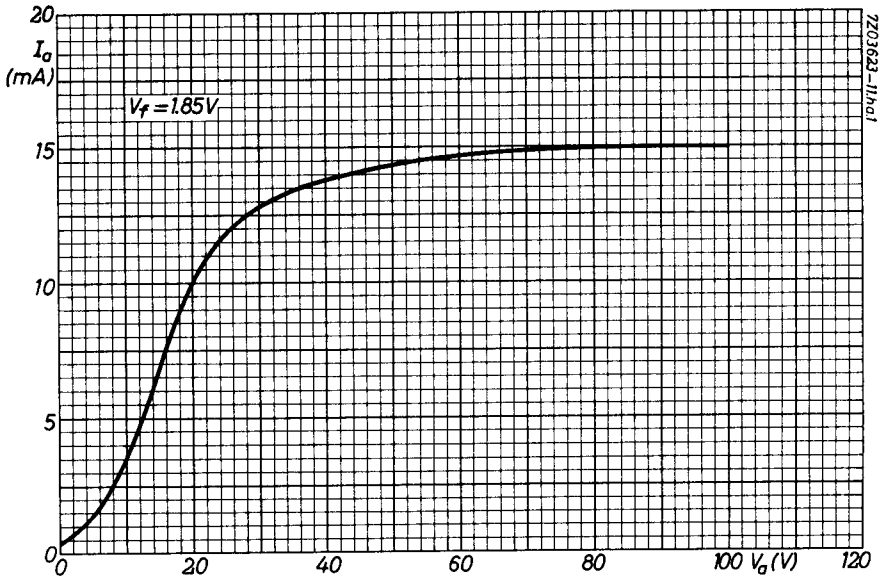
The tube having a tungsten cathode, the emission and consequently the noise voltage at the anode resistor can be varied by adjusting the filament voltage. Care should be taken that the anode voltage is sufficiently high to maintain saturation at the entire control range of the filament voltage.

In order to realize small self-inductance of the electrode leads, both the extremities of the filament and the anode are each connected to three pins of the base (see fig. p.1).

The thermal inertia consequent upon the thickness of the filament is sufficient to prevent fluctuations in the saturation current when an A.C. supply is used. In this case the filament voltage should be very well stabilised.

As a result of the diode's high internal resistance the anode voltage need not be stabilised.

When a load resistor of  $50 \Omega$  is employed, a noise factor of 20 (13 dB) can be measured without exceeding the maximum permissible anode current and anode dissipation. When the load resistor is enlarged, it is possible to measure higher noise factors.



# PHILIPS

Data handbook



Electronic  
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and materials

## K81A

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