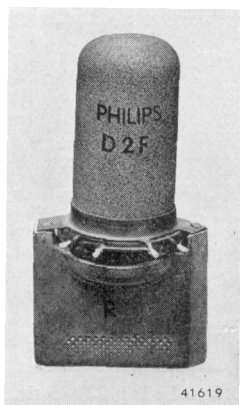


PHILIPS

"Miniwatt"

SPECIAL VALVES

VALVE FOR
PORTABLE TRANSCEIVERS**D2F****D12F****CHARACTERISTICS**

Heater voltage . . . V_f	=	1.4	V
Heater current . . . I_f	=	0.24	A
Anode voltage . . . V_a	=	250	V
Screen-grid voltage . . V_{g2}	=	250	V
Anode current . . . I_a	=	10	mA
Screen-grid current . . I_{g2}	=	1.8	mA
Grid bias V_{g1}	=	-5.5	V
Slope S	=	3.4	mA/V
AC resistance . . . R_i	=	0.5	MΩ

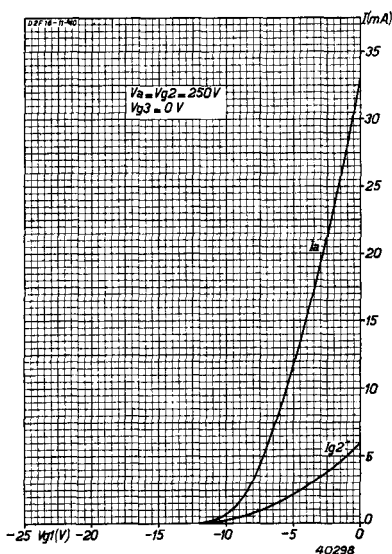
SPECIAL ADVANTAGES

1. Small size, permitting compact apparatus
2. Valves can easily be replaced without opening the set
3. Usable in every stage of a transceiver
4. Robust construction
5. Light weight
6. Operates on wavelengths down to 3 metres

DESCRIPTION

The D2F is a directly heated pentode, whose filaments may be run in series or in parallel.

For details of the radial arrangement of the contacts and of the hand grip see prospectus B 1-1. For special purposes, this pentode can be supplied without the hand grip, and in that case its type indication is D12F. Types D2F and D12F are intended chiefly for use as transmitting valves. Connected as



Anode current and screen-grid current shown against grid voltage.

PHILIPS "MINIWATT" SPECIAL VALVES

triodes they can be used as oscillators, and in RF push-pull output stages they may serve either as triodes or pentodes. With 250 V on anode and screen and at a wavelength of 3 to 5 metres, two valves in a class C push-pull telegraphy transmitter provide an output of 2.4 W; the anode dissipation will then be 3.6 W and the efficiency 40%. Under the same conditions the out-

put from two valves in an RF push-pull stage, class C, with combined anode- and screen modulation, is 1.6 W; the screens should be series-fed through a common resistance of 20 kΩ. The anode voltage being 250 V and the anode current 20 mA, the efficiency of the valve is thus 32%.

Apart from their use in the power stages of transmitters, the D2F and D12F may also be employed as modulators, whilst in receivers they may serve as output valves. With 250 V on anode and screen, the output from two valves in Class AB push-pull is 3.5 W at 2.5% distortion.

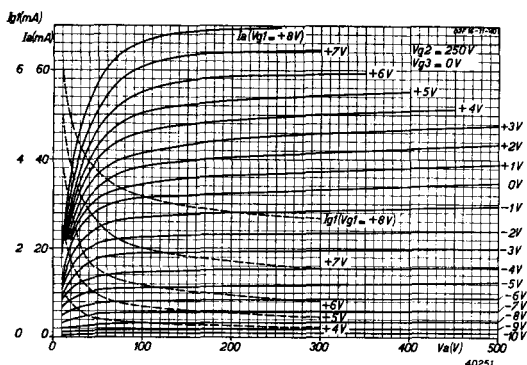
Measured cold the capacities between each electrode and all others connected with the filament are as follows:

$$C_a = 5.0 \text{ pF} \pm 0.5 \text{ pF},$$

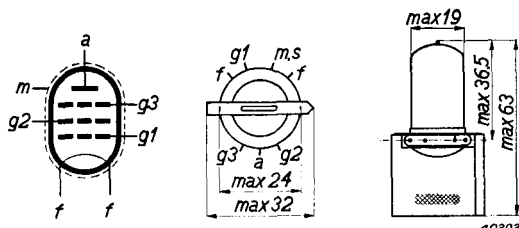
$$C_{g1} = 5.5 \text{ pF} \pm 0.5 \text{ pF},$$

$$C_{g3} = 7.2 \text{ pF} \pm 0.5 \text{ pF}.$$

The input and output capacities may, if necessary, be adjusted to a specific value by removing a small area of the metallisation.



Anode current and screen-grid current shown against anode voltage, at various values of grid bias.



Arrangement of electrodes; connections and maximum dimensions in millimetres.