

TUNING INDICATOR

Subminiature tuning indicator.

HEATING: Direct by D.C. or A.C.; series or parallel supply

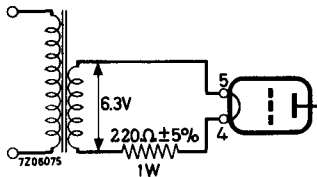
A. In battery receivers

Filament voltage V_f 1.4 V

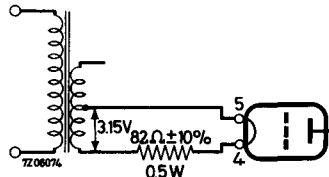
Filament current I_f 25 mA

One of the pins 4 and 5 should be connected to the earthed point of the detector circuit.

B. In A.C. receivers



With 6.3 V transformer winding



With 6.3 V winding with mid tap

Pin 5 should be connected to the earthed point of the detector circuit.

C. In A.C./D.C. receivers

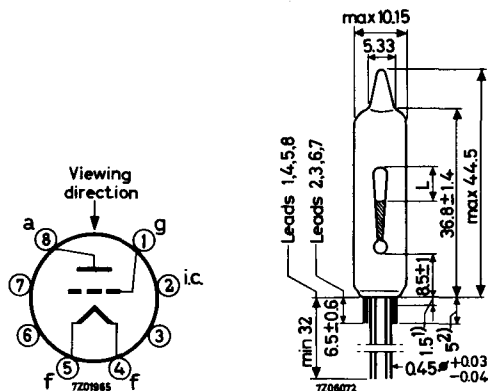
Filament voltage V_f 1.3 V

The filament of the DM70 with a suitable shunt resistor can be connected in a normal heater chain, provided an N.T.C. resistor is present.

Pin 5 should be connected to the earthed point of the detector circuit.

DIMENSIONS AND CONNECTIONS

Dimensions in mm



Base: Submin. 8 p

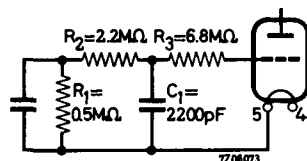
L = length of the light bar = max. 14 mm

OPERATING CHARACTERISTICS

Anode circuit in the case of A.C. filament supply

In order to avoid hum an anode resistor R_a is recommended according to the table below.

Supply voltage	V_b	250 V	R_a	1.8 M Ω
	V_b	170 V	R_a	1.0 M Ω
	V_b	110 V	R_a	0.47 M Ω

Grid circuit in the case of A.C. filament supply

In order to avoid hum a filter is recommended in the grid circuit according to the above diagram.

R_1 is the detector resistor. In the case of non-delayed A.G.C. the resistor R_2 and the capacitor C_1 are already present.

- 1) This part of the leads should not be bent.
- 2) This part of the leads should not be soldered.

OPERATING CHARACTERISTICS (continued)**A. Battery supply**

Filament voltage	V_f	1.4 ¹⁾	1.4 ²⁾	V
Supply voltage	V_b	67.5	90	V
Anode voltage	V_a ³⁾	60	85	V
Grid voltage	V_g	0	0	V
Anode current	I_a	105	170	μA
Length of light bar	L	10	11	mm
Grid voltage at L = 0	$V_g(L = 0)$	-7	-10	V

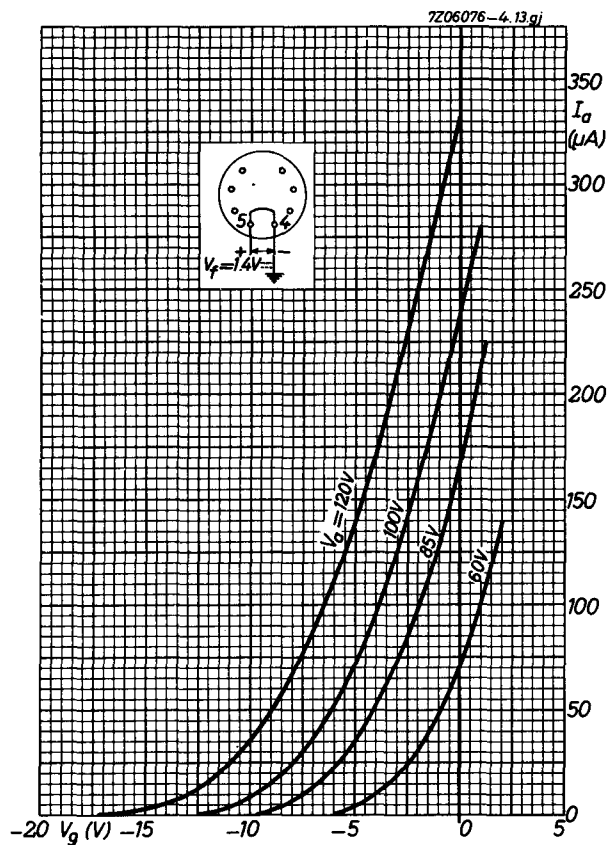
B. Mains supply

Filament voltage	V_f ⁴⁾	1.4	1.4	1.4	V_{RMS}
Supply voltage	V_b	110	170	250	V
Anode resistor	R_a	0.47	1.0	1.8	$M\Omega$
Grid voltage	V_g	0	0	0	V
Anode current	I_a	105	110	105	μA
Length of light bar	L	10	10	10	mm
Grid voltage at L = 0	$V_g(L = 0)$	-15	-23	-34	V

LIMITING VALUES (Design centre rating system)

Supply voltage in cold condition	V_{b0}	max. 450	V
Supply voltage	V_b	max. 300	V
Anode voltage in non-controlled condition	V_a	max. 150	V
Anode voltage	V_a	min. 45	V
Anode dissipation	W_a	max. 75	mW
Cathode current	I_k	max. 0.6	mA
Grid resistor	R_g	max. 10	$M\Omega$

¹⁾ D.C.; pin 5 grounded²⁾ D.C.; pin 4 grounded³⁾ $V_a = V_b$ reduced by the bias for the output valve⁴⁾ A.C.; pin 5 connected to earth. When V_f is adjusted according to page 1, I_a will be 1-2 μA lower. The other data remain unchanged.



PHILIPS

Data handbook



**Electronic
components
and materials**

DM70

page	sheet	date
1	1	1969.12
2	2	1969.12
3	3	1969.01
4	4	1969.12
5	FP	1999.08.11