

SINGLE ANODE E.H.T. RECTIFYING TUBES

High-vacuum single-anode rectifying tubes for high tension in television receivers (E.H.T. supply from the line time base).

The DY86 and DY87 are equivalent except for the DY87 having a chemically treated envelope which avoids flash-over under conditions of high humidity and low atmospheric pressure (45 cm Hg).

HEATING: Indirect by A.C. or D.C.; parallel supply

Heater voltage	V_f	1.4 V
Heater current	I_f	550 mA

When the heater is to be operated on R.F. or flyback pulses, the heater voltage can be adjusted to 1.4 V e.g. by measurement with a thermocouple.

Tolerances of V_f

a. As E.H.T. rectifier in television receivers

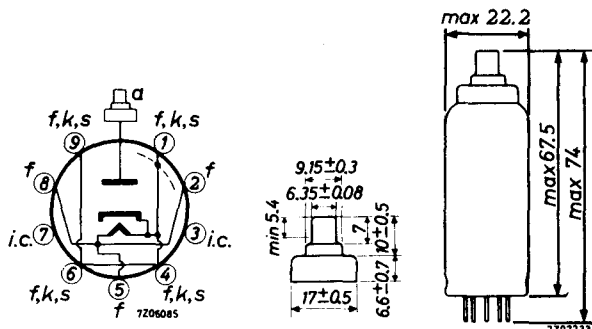
The heater voltage should be adjusted to its nominal value at a D.C. output current of $200\mu\text{A}$. At an increase of the D.C. output current to 400 to $600\mu\text{A}$ which can incidentally occur during operation the decrease of the heater voltage may amount to max. 15 %. These requirements hold for nominal mains voltage and full horizontal scanning of the picture tube. If the picture width control is such that also the heater voltage of the E.H.T. diode is influenced, the influence of this control must be kept within the 15 % limit indicated above.

- b. For all other applications the limits for the heater voltage are as given in the application directions in front of this section.

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: NOVAL



REMARKS

- Pins 1, 4, 6 and 9 can be used for fixing an anti-corona ring.
- Circuit elements having the same potential as the heater (e.g. a series resistor) may be connected to pins 3 and 7. These pins must never be earthed.
- If the tube operates at high values of $V_{a\text{ invp}}$ and/or under conditions of high relative humidity or low pressure the metal top-cap should get an insulating cover to avoid corona phenomena.

CAPACITANCES (without external shield)

Anode to all	C_a	1.55 pF
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OPERATING CHARACTERISTICS

Output current	I_o	0.15 mA
Output voltage	V_o	18 kV

LIMITING VALUES (Design centre rating system unless otherwise stated)

Output voltage	V_o	max. 18 kV
Peak inverse voltage	$V_{a\text{ invp}}$	max. 22 kV ¹⁾
Peak inverse voltage (Absolute max.)	$V_{a\text{ invp}}$	max. 27 kV ¹⁾
Peak inverse voltage without current	$V_{a\text{ invp}}(I_o = 0)$	max. 24 kV ¹⁾
Output current	I_o	max. 0.5 mA ²⁾
Peak output current	I_{ap}	max. 40 mA ³⁾
Filter input capacitance	C_{filt}	max. 2000 pF

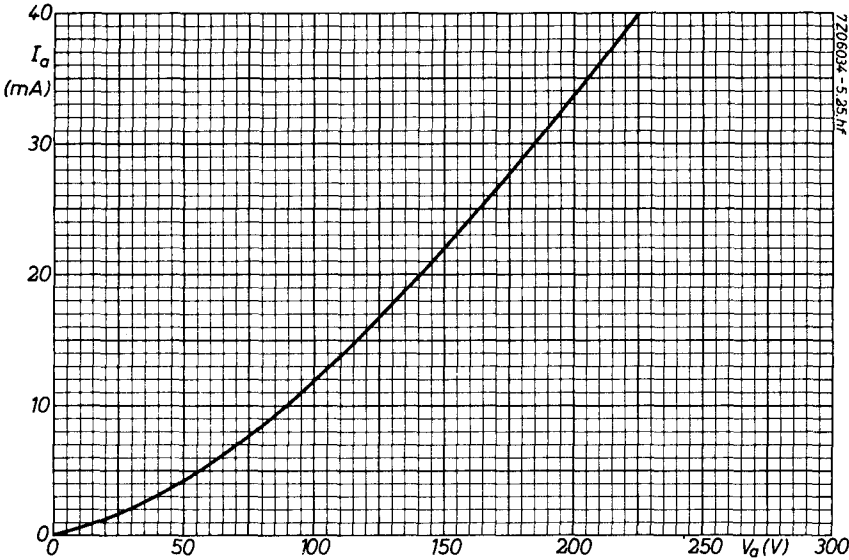
¹⁾ Maximum pulse duration 22 % of a line scanning cycle with a maximum of 18 μsec .

The negative peak anode voltage due to ringing in the line-output transformer must be taken into account. The ratio between this negative peak value and the positive D.C. voltage can be about 1 : 4.5.

²⁾ During short periods as in television service $I_o = \text{max. } 0.8 \text{ mA}$.

³⁾ Maximum pulse duration 10 % of a line scanning cycle with a maximum of 10 μsec .

DY86
DY87



PHILIPS

Data handbook



**Electronic
components
and materials**

DY86 DY87

page	sheet	date
1	1	1969.12
2	2	1969.12
3	3	1969.12
4	4	1969.12
5	FP	1999.07.29