

ELECTROMETER TUBE

Subminiature electrometer triode for linear and logarithmic use with a controlled logarithmic relationship between positive grid current and anode current.

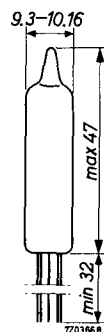
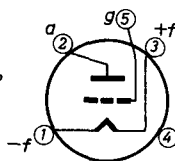
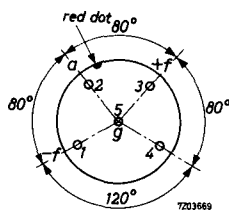
QUICK REFERENCE DATA

Filament voltage	V_f	1.25 V
Anode voltage	V_a	9.0 V
Anode current	I_a	100 μ A
Grid current	$-I_g$	$< 10^{-12}$ A

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Subminiature



Directly soldered connections to the leads of this tube must be at least 13 mm from the seal and any bending of the leads must be at least 1.5 mm from the seals.

HEATING: direct by D.C.

Filament voltage	V_f	1.25 V
Filament current	I_f	14 mA

CAPACITANCES

Anode to all except grid	$C_{a(g)}$	0.8 pF
Grid to all except anode	$C_{g(a)}$	0.5 pF
Anode to grid	C_{ag}	2.0 pF

CHARACTERISTICS AND RANGE VALUES

Anode voltage	V_a	9.0	V
Grid voltage	V_g	-2.7	-2.0 to 3.75 V
Anode current	I_a	100	μA
Grid current	$-I_g$	1.6×10^{-13}	$< 10^{-12} A$ 1)
Transconductance	S	80	60 to 90 $\mu A/V$
Amplification factor	μ	2.0	1.6 to 2.7
Grid voltage at crossover point 2) ($I_a = 145 \mu A$)	V_g	-1.4	$< 1.7 V$

LIMITING VALUES (Absolute max. rating system)

Anode voltage	V_a	max.	25 V
Anode current	I_a	max.	250 μA
Filament voltage	V_f	max.	1.5 V
		min.	1.1 V

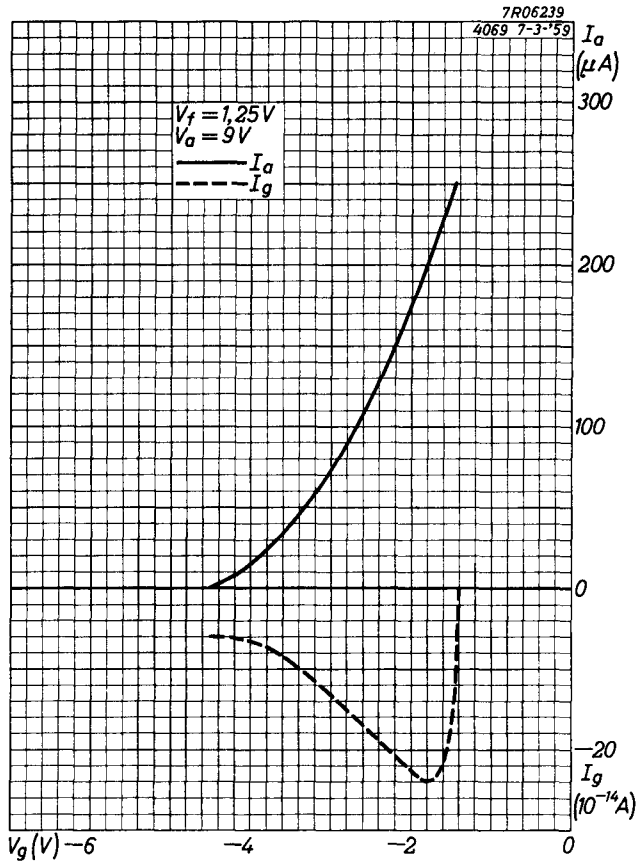
REMARKS

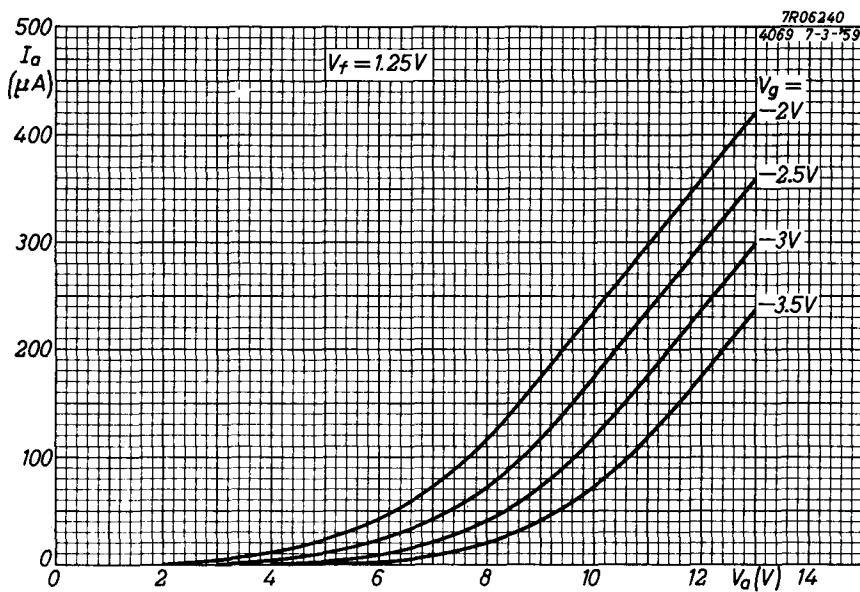
1. In order to avoid excessive drift of the characteristics the filament voltage must be applied before the anode voltage.
2. To avoid contamination of the glass, the tube should not be removed from its protective envelope until it is mounted into the equipment. Great care should be taken not to handle the tube within 13 mm of the base.
3. Operation with logarithmic characteristic.

The tube has a controlled linear relationship between I_a and the logarithm of the positive I_g , which holds good over a range of I_g from 3×10^{-12} to $3 \times 10^{-9} A$. With $+I_g = 3 \times 10^{-9} A$, V_a can be set to some value within the range from 3 to 6 V (nominal 4.4 V) such that I_a falls by $50 \mu A$ when $+I_g$ is reduced to $3 \times 10^{-12} A$. The initial value of I_a will be found in the range from 65 to $100 \mu A$.

1) Only valid in darkness.

2) The crossover point is the point at which the direction of I_g is reversed.





PHILIPS

Data handbook



**Electronic
components
and materials**

4069

page	sheet	date
1	1	1968.12
2	2	1968.12
3	3	1968.12
4	4	1968.12
5	FP	2001.05.19