

KC 1 Triode

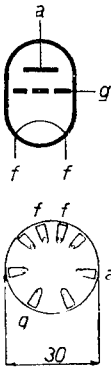


Fig. 2
Arrangement of electrodes and base connections.

This triode is useful as an A.F. amplifier valve, anode-bend detector, or oscillator in battery receivers. Its use as a grid detector is not recommended, since the maximum alternating output voltage is then usually insufficient for the output stage. In the case of A.F. amplification, care must be taken that the A.F. gain following the grid of this valve is not made too great, as this is liable to set up microphony.

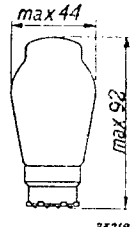


Fig. 1
Dimensions in mm.

FILAMENT RATINGS

Heating: direct by battery; parallel supply.

Filament voltage $V_f = 2.0 \text{ V}$
 Filament current $I_f = 0.065 \text{ A}$

CAPACITANCES

$C_{ag} = 3.5 \mu\mu\text{F}$
 $C_a = 2.0 \mu\mu\text{F}$
 $C_g = 3.0 \mu\mu\text{F}$

STATIC DATA

Anode voltage
 $V_a = 90 \text{ V}$ 135 V
 Anode current
 $I_a = 0.3 \text{ mA}$ 1.2 mA
 Grid bias
 $V_g = -1.5 \text{ V}$ -1.5 V
 Internal resistance
 $R_i = 60,000 \text{ ohms}$ 40,000 ohms
 Amplification factor
 $\mu = 25$ 25

MAXIMUM RATINGS

$V_a = \text{max. } 150 \text{ V}$
 $W_a = \text{max. } 0.5 \text{ W}$
 $I_k = \text{max. } 4 \text{ mA}$
 $V_g (I_g = +0.3 \mu\text{A}) = \text{max. } -0.2 \text{ V}$
 $R_{jf} = \text{max. } 3 \text{ M ohms}$

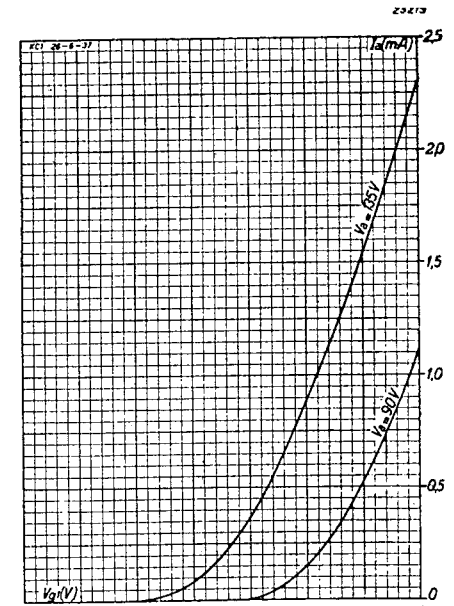


Fig. 3
Anode current as a function of the grid bias, with $V_a = 90 \text{ V}$ and 135 V .

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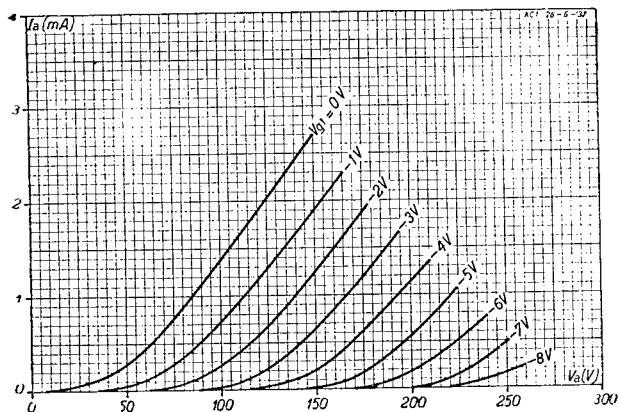


Fig. 4
Anode current as a function of the anode voltage with grid bias as parameter.

TABLE
KC 1 used as a resistance-coupled A.F. amplifier

Battery voltage V_b (V)	Coupling resistor R_a (megohms)	Anode current I_a (mA)	Grid bias V_g (V)	For an alternating output voltage of 7 Veff		For an alternating output voltage of 10 Veff	
				Gain	Distortion	Gain	Distortion
				$\frac{V_o}{V_i}$	d_{tot} (%)	$\frac{V_o}{V_i}$	d_{tot} (%)
90	0.32	0.08	-1.5	14.6	2.7	—	—
90	0.32	0.13	-0.75	16.7	1.6	—	—
135	0.32	0.18	-1.5	—	—	19	1.0
135	0.32	0.23	-0.75	—	—	20	0.8
90	0.2	0.11	-1.5	14.3	4	—	—
90	0.2	0.17	-0.75	16.2	1.5	—	—
135	0.2	0.26	-1.5	—	—	18	1.0
135	0.2	0.32	-0.75	—	—	18.5	0.8