

Netzröhre für GW-Heizung  
indirekt geheizt  
Serienspeisung  
DC-AC-Heating  
indirectly heated  
connected in series

# TELEFUNKEN

**PCF 82**

Triode - Pentode  
für FS-Mischstufen  
Triode - Pentode for  
TV-Oscillator and Mixer

$U_f$  ca. 9 V  
 $I_f$  300 mA

## Meßwerte · Measuring Values

### Triode

$U_a$	<b>150</b>	V
$U_g$	-2	V
$I_a$	<b>11</b>	mA
S	<b>5,8</b>	mA/V
$\mu$	<b>35</b>	

### Pentode

$U_a$	<b>170...200</b>	V
$U_{g2}$	<b>110</b>	V
$U_{g1}$ ( $R_k = 68 \Omega$ )	-0,9	V
$I_a$	<b>10</b>	mA
$I_{g2}$	<b>3,3</b>	mA
S	<b>5,5</b>	mA/V
$\mu_{g2g1}$	<b>32</b>	
$R_i$	<b>0,4</b>	M $\Omega$
$U_{g1}$ ( $I_a = 10 \mu A$ )	-10	V

## Betriebswerte · Typical Operation

### Triode als Oszillator · Triode as Oscillator

$U_b$	<b>170</b>	<b>200</b>	<b>250</b>	V
$R_a$	<b>20</b>	<b>20</b>	<b>20</b>	k $\Omega$
$R_g$	20	20	20	k $\Omega$
$U_{osz}$ $e_{eff}$	3	3	3	V $_{eff}$
$I_a$	3,3	4,1	5,7	mA
$I_g$	160	160	160	$\mu A$

### Pentode als Mischstufe · Pentode as Mixer

$U_a = U_b$	<b>170</b>	<b>200</b>	<b>250</b>	V
$R_{g2}$	30	45	70	k $\Omega$
$R_{g1}$	1	1	1	M $\Omega$
$U_{bg1}$	0	0	0	V
$U_{osz}$ $e_{eff}$	3	3	3	V $_{eff}$
$I_a$	5,1	5,1	5,6	mA
$I_{g2}$	2,1	2	1,9	mA
$I_{g1}$	3,75	3,8	3,7	$\mu A$
$S_c$	1,8	1,85	1,9	mA/V



**Grenzwerte** • Maximum Ratings

**Triode**

$U_{a0}$	<b>550</b>	V
$U_a$	<b>300</b>	V
$N_a$	<b>1,5</b>	W
$I_k$	<b>20</b>	mA
$R_g$	<b>1</b>	M $\Omega$
$U_{ge}$ ( $I_g \leq +0,3 \mu A$ )	<b>-1,3</b>	V
$U_{fk}$ k = pos	<b>220</b>	V
k = neg	<b>90</b>	V
$R_{fk}$	<b>20</b>	k $\Omega$

**Pentode**

$U_{a0}$	<b>550</b>	V
$U_a$	<b>300</b>	V
$N_a$	<b>2</b>	W
$U_{g20}$	<b>550</b>	V
$U_{g2}$	<b>300</b>	V
$N_{g2}$	<b>0,5</b>	W
$I_k$	<b>20</b>	mA
$R_{g1}$	<b>1</b>	M $\Omega$
$U_{g1e}$ ( $I_{g1} \leq +0,3 \mu A$ )	<b>-1,3</b>	V
$U_{fk}$ k = pos	<b>220</b>	V
k = neg	<b>90</b>	V
$R_{fk}$	<b>20</b>	k $\Omega$

**Kapazitäten** • Capacitances

**Triode**

$C_e$	<b>2,5</b>	pF
$C_{e^*}$	<b>3,5</b>	pF
$C_a$	<b>0,4</b>	pF
$C_{a^*}$	<b>1,6</b>	pF
$C_{ga}$	<b>1,8</b>	pF
$C_{kf}$	ca. <b>3</b>	pF

**Pentode**

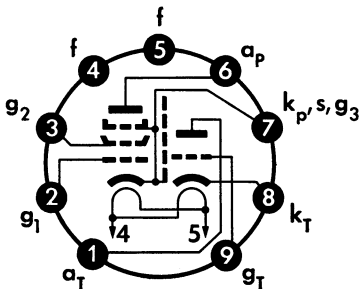
$C_e$	<b>5,2</b>	pF
$C_a$	<b>2,6</b>	pF
$C_{g1a}$	$\leq$ <b>0,01</b>	pF
$C_{kf}$	ca. <b>3</b>	pF

**Triode/Pentode**

$C_{aT/aP}$	$\leq$ <b>0,07</b>	pF
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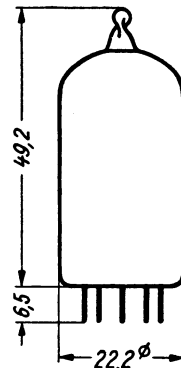
\*) Stift 7 mit Stift 8 verbunden  
Pin 7 connected to pin 8

**Sockelschaltbild**  
**Base connection**



**Pico 9 • Noval**

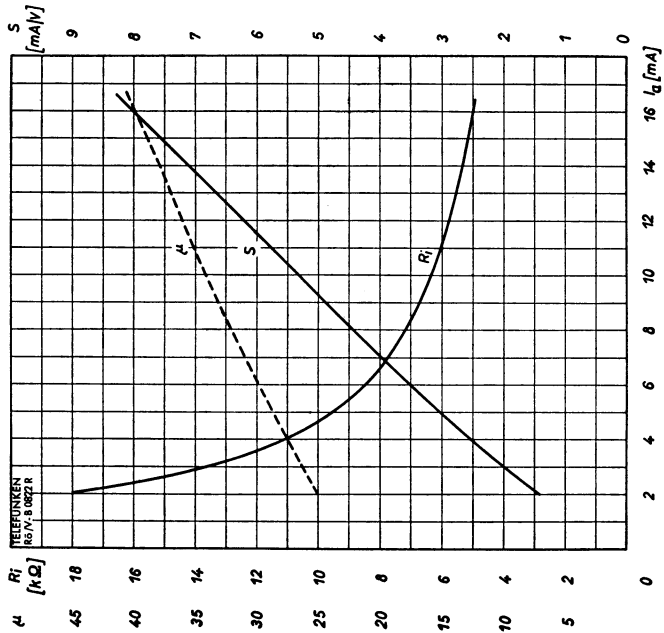
**max. Abmessungen**  
**max. Dimensions**  
DIN 41539, Nenngröße 40, Form A



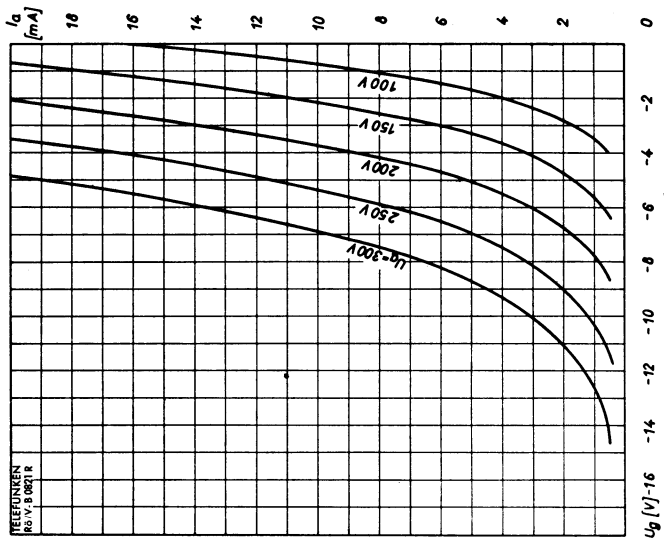
**Gewicht • Weight**  
**max. 16 g**

Wenn notwendig, muß gegen Herausfallen der Röhre aus der Fassung Vorsorge getroffen werden.  
Special precaution must be taken to prevent the tube from becoming dislodged.





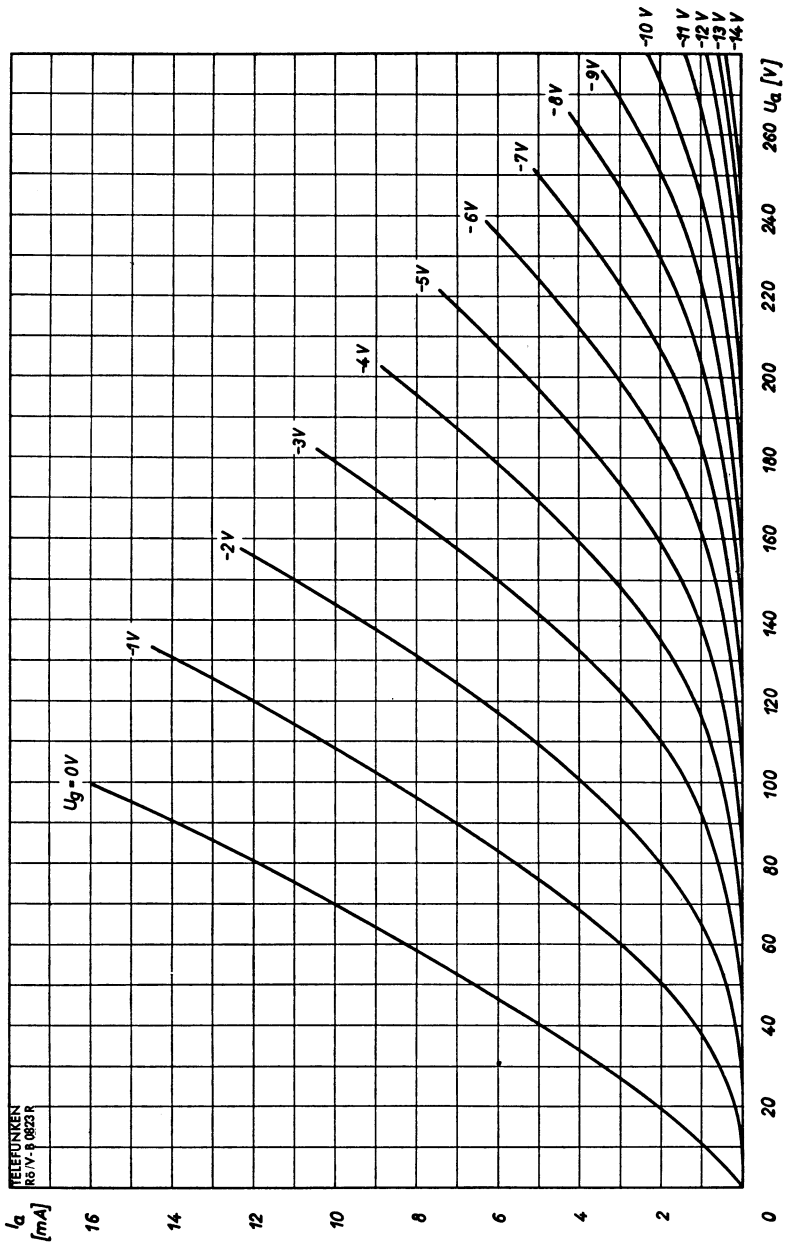
$S, R_i, \mu = f(I_a)$   
 $U_a = 150 \text{ V}$

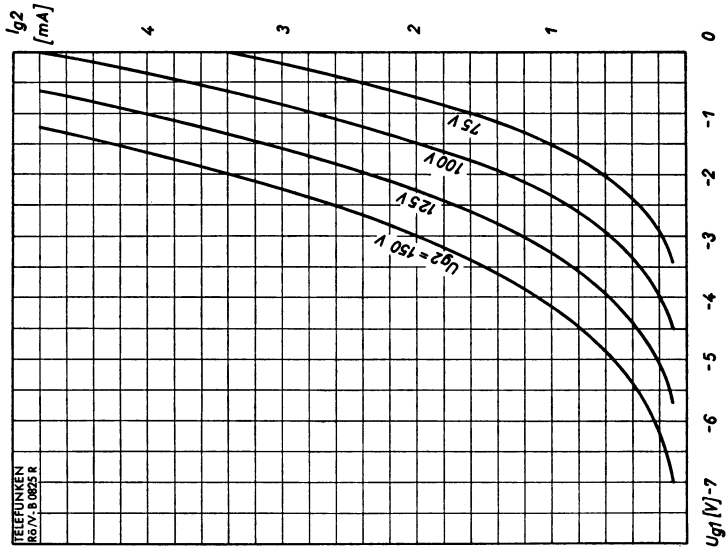


$I_a = f(U_g)$   
 $U_a = \text{Parameter}$

Triode



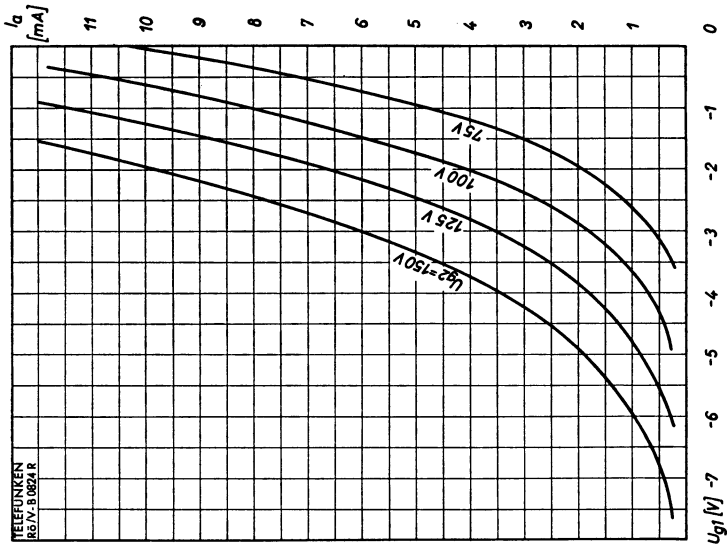




$I_{g2} = f(U_{g1})$

$U_a = 170$  V

$U_{g2}$  = Parameter



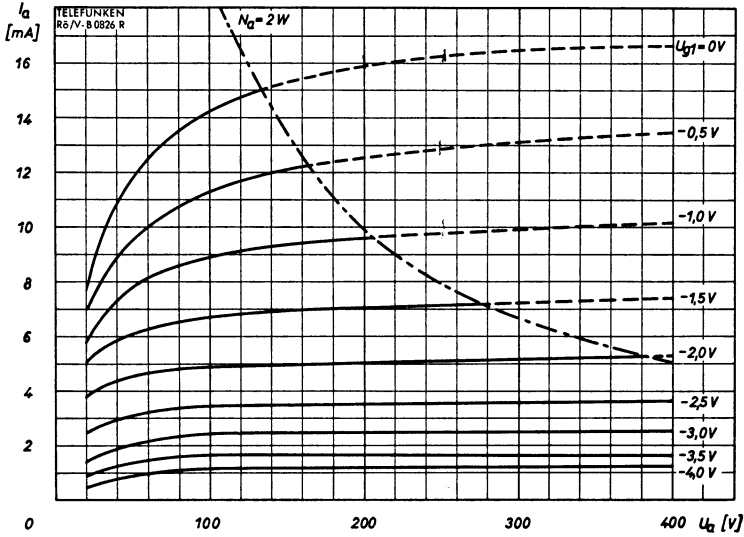
Pentode

$I_a = f(U_{g1})$

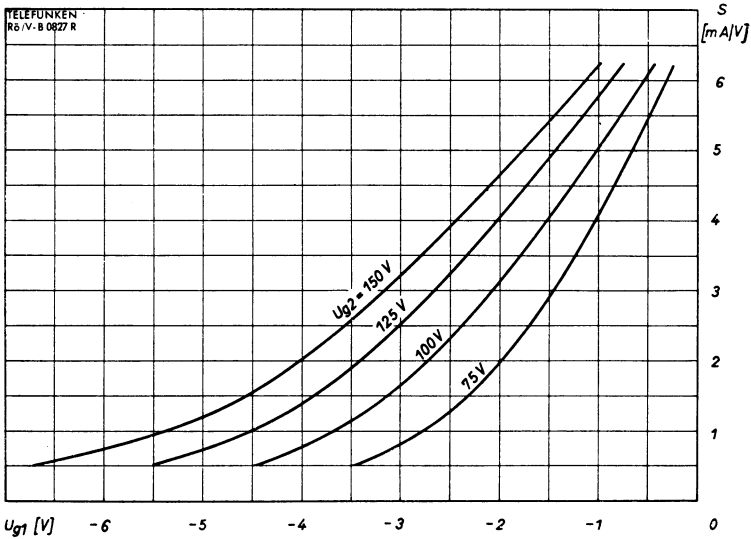
$U_a = 170$  V

$U_{g2}$  = Parameter





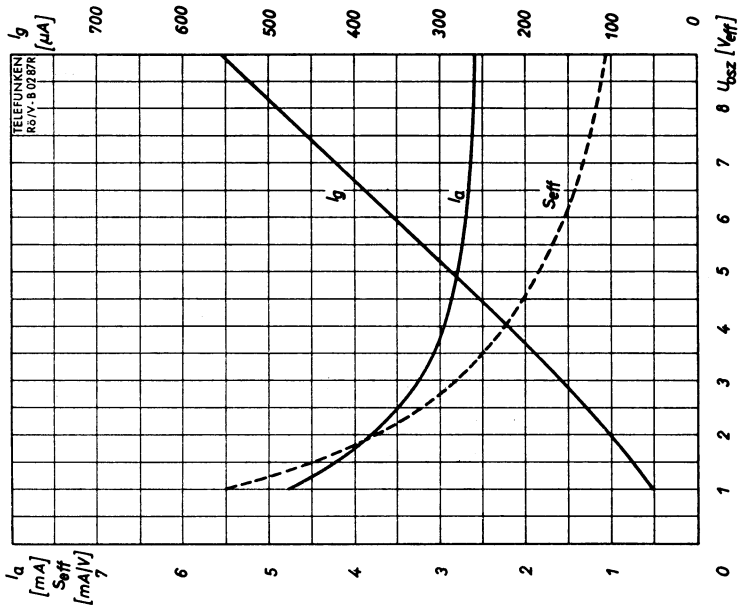
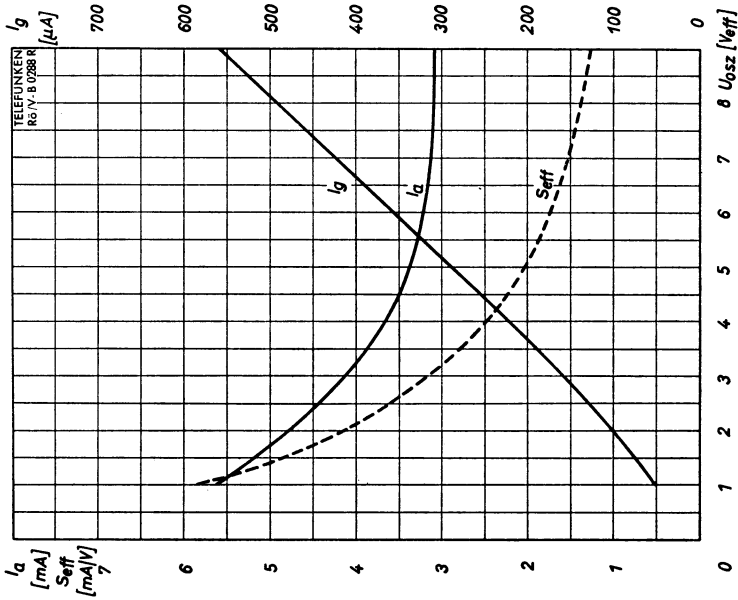
$I_a = f(U_a)$   
 $U_{g2} = 110 V$   
 $U_{g1} = \text{Parameter}$



$S = f(U_{g1})$   
 $U_{g2} = 110 V$   
 $U_{a1} = \text{Parameter}$

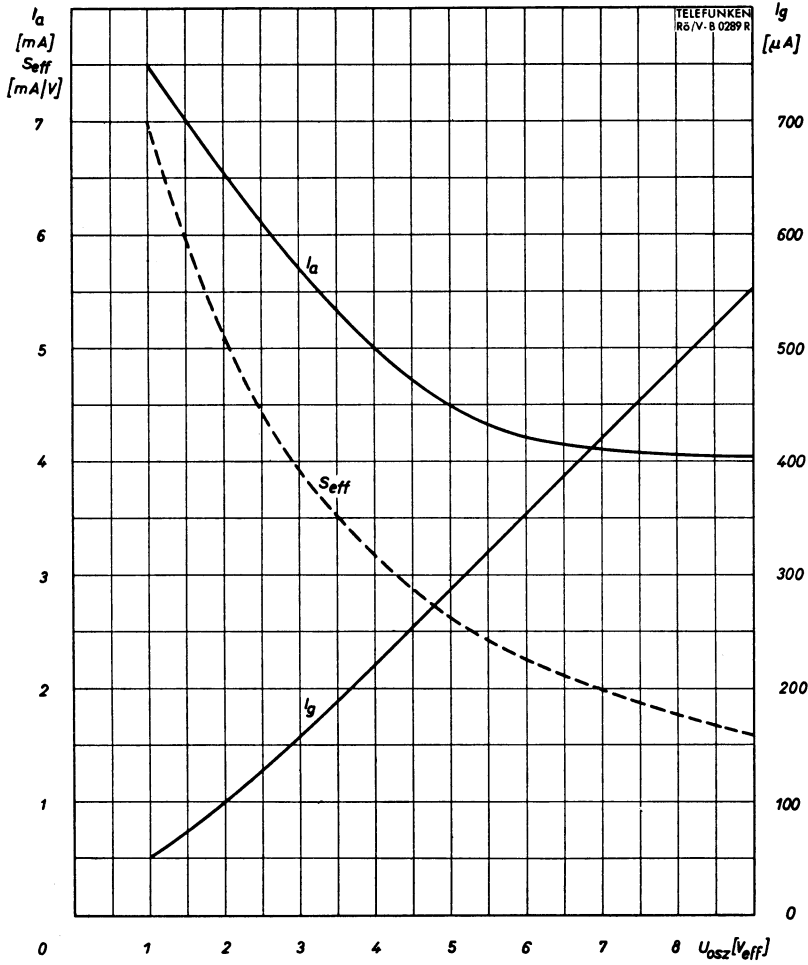
**Pentode**





Triode als Oszillator



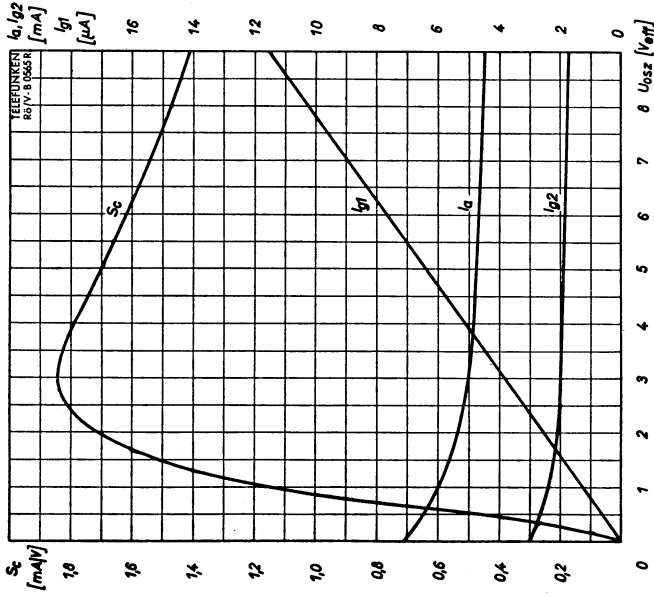


**Triode als Oszillator**

- $I_a, I_g, S_{eff} = f(U_{osz})$
- $U_b = 250 V$
- $R_a = 20 k\Omega$
- $R_g = 20 k\Omega$







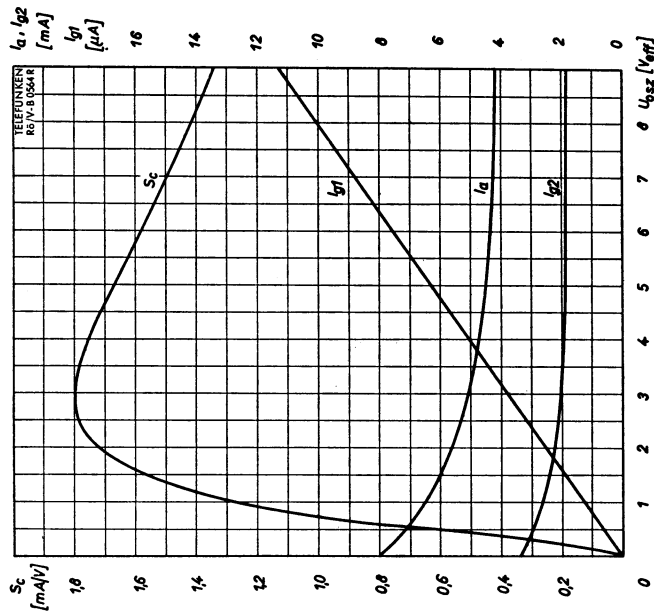
Pentode als Mischröhre

$I_{a1}, I_{g2}, I_{g1}, S_c = f(U_{g2z})$

$U_b = U_a = 200 \text{ V}$

$R_{g2} = 45 \text{ k}\Omega$

$R_{g1} = 1 \text{ M}\Omega$



Pentode als Mischröhre

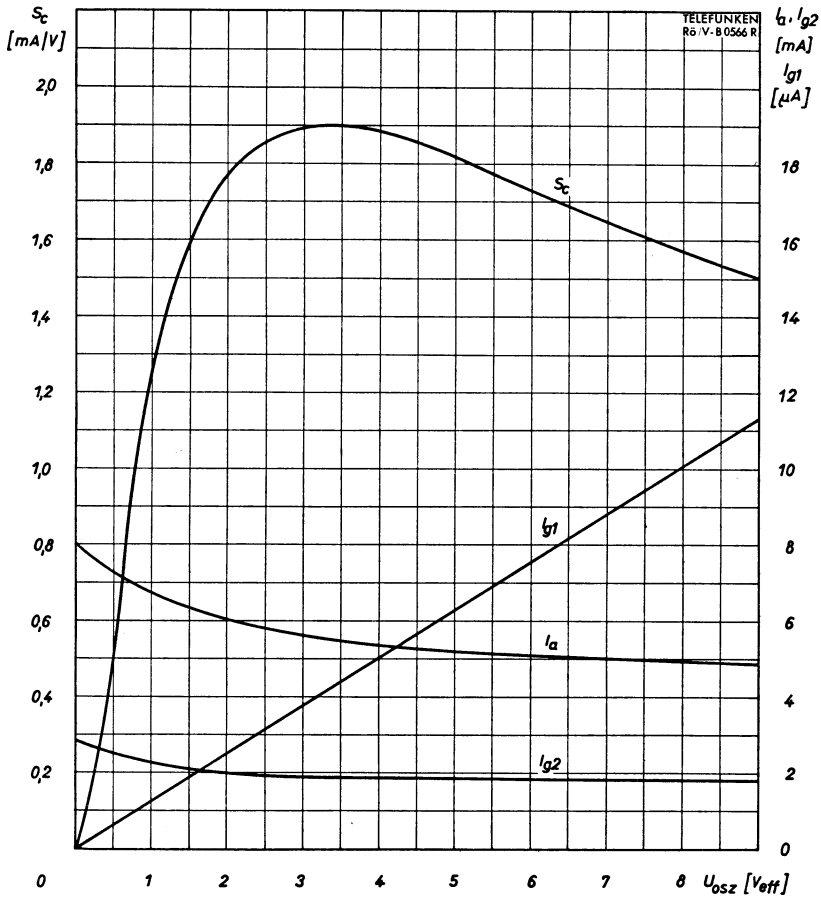
$I_{a1}, I_{g2}, I_{g1}, S_c = f(U_{g2z})$

$U_b = U_a = 170 \text{ V}$

$R_{g2} = 30 \text{ k}\Omega$

$R_{g1} = 1 \text{ M}\Omega$





### Pentode als Mischröhre

$$I_a, I_{g2}, I_{g1}, S_c = f(U_{osz})$$

$$U_b = U_a = 250 \text{ V}$$

$$R_{g2} = 70 \text{ k}\Omega$$

$$R_{g1} = 1 \text{ M}\Omega$$

