PENTODE for use as H.F. and L.F. amplifier and oscillator
PENTHODE pour utilisation comme amplificatrice H.F. et B.F. et oscillatrice
PENTHODE zur Verwendung als H.F. und N.F. Verstärker und Oszillator

Cathode : oxide-coated
Cathode : oxyde
Kathode : Oxyd

Heating : indirect
Chauffage: indirect
Heizung : indirekt

Vf = 12,6 V
If = 0,7 A

Capacitances
Capacités
Kapazitäten

Ca = 7,8 pF
Cg1 = 14,5 pF
Cag1 = 0,15 pF

Typical characteristics
Caractéristiques typiques
Kenndaten

μg2g1 = 7,6
S (Ia=30 mA) = 3,3 mA/V

λ	Freq.	C telegr.		B teleph.		C ag2 mod.	
m	Mc/s	Va (V)	Wo (W)	Va (V)	Wo (W)	Va (V)	Wo (W)
>3	<100	500 400 300	33 28 24	500 400	6 5,4	400 300	20 16

λ	Freq.	C fr.mult.	
m	Mc/s	Va (V)	Wo (W)
5,4/1,8	55/165	400	9

Limiting values
Caractéristiques limites
Grenzdaten

Va = max. 500 V
Wa = max. 12 W
Vg2 = max. 300 V
Wg2 = max. 5 W
Wg1 = max. 0,5 W

Rg1 = max. 50 kΩ [1]
Rg1 = max. 100 kΩ [2]
Ik = max. 130 mA
Ikp = max. 800 mA
Vfk = max. 75 V

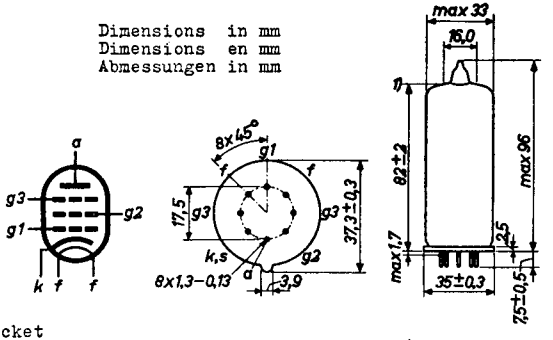
bottomtemperature
température du fond
Bodentemperatur
= max. 180 °C

[1]) With fixed grid bias; à polarisation fixe; mit fester Gittervorspannung

[2]) With automatic grid bias; à polarisation automatique; mit automatischer Gittervorspannung

PHILIPS

Dimensions in mm
Dimensions en mm
Abmessungen in mm



Socket
Support
Fassung

40210/02

Mounting position: arbitrary
Montage : arbitrairement
Einbau : willkürlich

Net weight
Poids net
Nettogewicht

50 g

Shipping weight
Poids brut
Bruttogewicht

65 g

---

1) Reference line
Ligne de référence
Bezugslinie

Operating conditions H.F. class C telegraphy
Caractéristiques d'utilisation H.F. classe C télégraphie
Betriebsdaten H.F. Klasse C Telegraphie

λ	=	>3	>3	>3	m
V_a	=	500	400	300	V
V_{g1}	=	−80	−80	−80	V
V_{g2}	=	250	250	250	V
V_{g3}	=	0	0	0	V
I_a	=	90	100	117	mA
I_{g1}	=	3	3,5	4,5	mA
I_{g2}	=	5	5,5	8	mA
V_{g1p}	=	96	103	110	V
W_{ig1}	=	0,26	0,33	0,45	W
W_{g2}	=	1,25	1,4	2	W
W_{ia}	=	45	40	35,1	W
W_a	=	12	12	11,1	W
W_o	=	33	28	24	W
η	=	73,5	70	68	%

Operating conditions H.F. class B telephony
Caractéristiques d'utilisation H.F. classe B téléphonie
Betriebsdaten H.F. Klasse B Telephonie

λ	=	>3	>3	m
V_a	=	500	400	V
V_{g1}	=	−28	−28	V
V_{g2}	=	250	250	V
V_{g3}	=	0	0	V
I_a	=	36	42,5	mA
I_{g2}	=	3	3,5	mA
V_{g1p}	=	17,5	21,25	V
W_{g2}	=	0,75	0,9	W
W_{ia}	=	18	17	W
W_a	=	12	11,6	W
W_o	=	6	5,4	W
η	=	33,5	32	%
m	=	100	100	%
I_{g1}	=	2	3,4	mA
W_{ig1}	=	0,07	0,13	W

PHILIPS

Operating conditions H.F. class C anode- and screen grid modulation
Caractéristiques d'utilisation H.F. classe C modulation d'anode et de grille-écran
Betriebsdaten H.F.Klasse C Anoden- und Schirmgittermodulation

λ	=	>3	>3	m
V_a	=	400	300	V
V_{g1}	=	-80	-80	V
V_{g2}	=	200	200	V
V_{g3}	=	0	0	V
I_a	=	70	77	mA
I_{g1}	=	2,5	3,5	mA
I_{g2}	=	4,5	7	mA
V_{g1p}	=	100	105	V
W_{ig1}	=	0,25	0,35	W
W_{g2}	=	0,9	1,4	W
W_{ia}	=	28	23	W
W_a	=	8	7	W
W_o	=	20	16	W
	=	71	69,5	%
m	=	100	100	%
V_{g2p}	=	190	190	V
W_{mod}	=	15	13	W

Operating conditions as class C frequency multiplier
Caractéristiques d'utilisation comme multiplicatrice de fréquence classe C
Betriebsdaten als Klasse C Frequenzvervielfacher

λ	=	5,4/1,8	5,4/1,8	5,4/1,8	m
V_a	=	400	400	400	V
V_{g1}	=	-175	-200	-250	V
V_{g2}	=	250	250	250	V
V_{g3}	=	0	0	0	V
I_a	=	47	50	52,5	mA
I_{g1}	=	0,9	1	1,2	mA
I_{g2}	=	2	2,5	3	mA
V_{g1p}	=	200	220	270	V
W_{ig1}	=	0,16	0,2	0,3	W
W_{g2}	=	0,5	0,65	0,75	W
W_{ia}	=	18,8	20	21	W
W_a	=	12	12	12	W
W_o	=	6,8	8	9	W
η	=	36	40	43	%

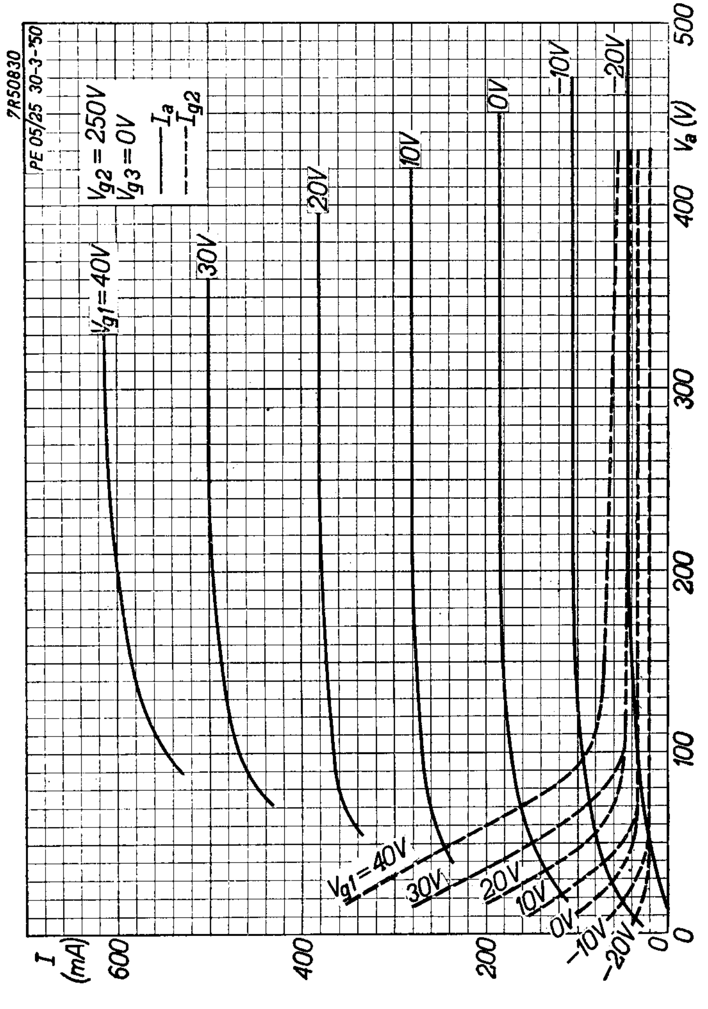
Operating conditions as L.F. class B amplifier and modulator, two valves
Caractéristiques d'utilisation comme amplificatrice et modulatrice B.F. classe B, deux tubes
Betriebsdaten als NF - Klasse B Verstärker und Modulator, zwei Röhren

V_a	=	500		400		V
V_{g1}	=	-24		-18,5		V
V_{g2}	=	250		200		V
V_{g3}	=	0		0		V
R_{aa}	=	9		5,5		kΩ
V_{g1g1p}	=	0	70	0	82	V
I_a	=	2x18	2x71	2x15	2x89	mA
I_{g1}	=	0	2x1,8	0	2x4,4	mA
I_{g2}	=	2x0,6	2x11,2	2x0,5	2x10,5	mA
W_{ig1}	=	0	2x57	0	2x165	mW
W_{g2}	=	2x0,15	2x2,8	2x0,1	2x2,1	W
W_{ia}	=	2x9	2x35,5	2x6	2x35,5	W
W_a	=	2x9	2x11	2x6	2x11	W
W_o	=	0	49	0	49	W
d_{tot}	=	-	5	-	5	%
η	=	-	69	-	69	%

V_a	=	300		V
V_{g1}	=	-18		V
V_{g2}	=	200		V
V_{g3}	=	0		V
R_{aa}	=	3		kΩ
V_{g1g1p}	=	0	100	V
I_a	=	2x15	2x108	mA
I_{g1}	=	0	2x6	mA
I_{g2}	=	2x0,5	2x13	mA
W_{ig1}	=	0	2x270	mW
W_{g2}	=	2x0,1	2x2,6	W
W_{ia}	=	2x4,5	2x32,5	W
W_a	=	2x4,5	2x12,5	W
W_o	=	0	40	W
d_{tot}	=	-	5	%
η	=	-	62	%

PE 05/25

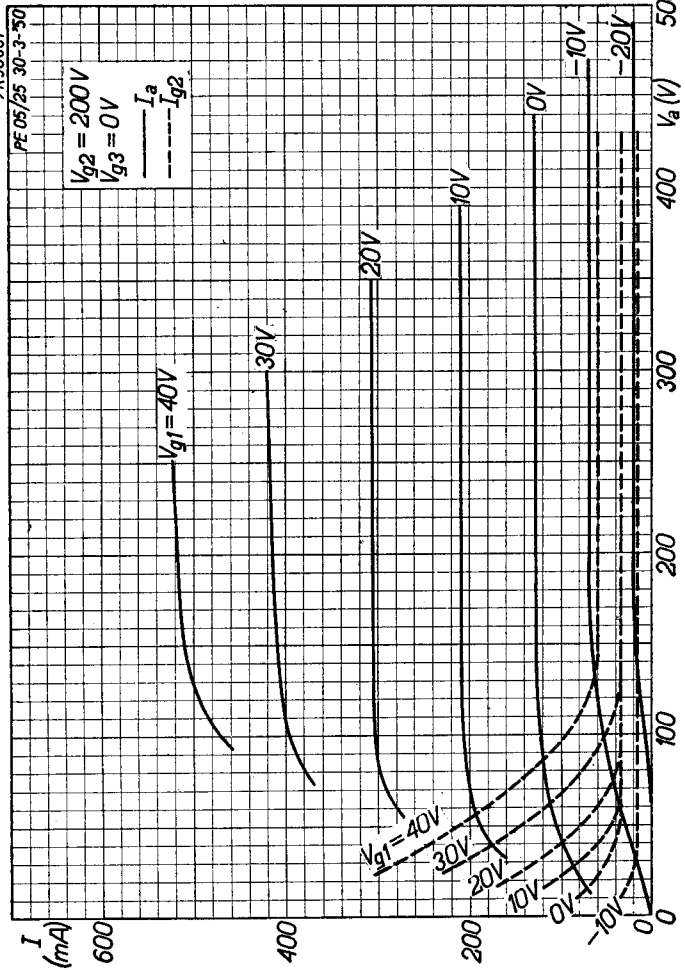
PHILIPS



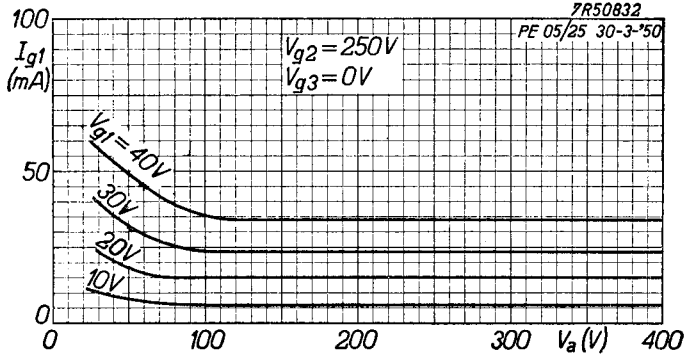
A

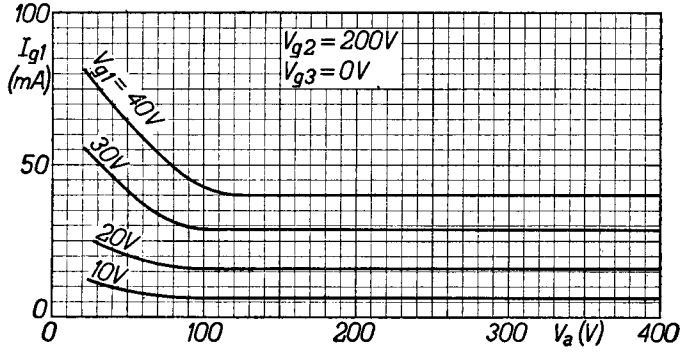
PHILIPS

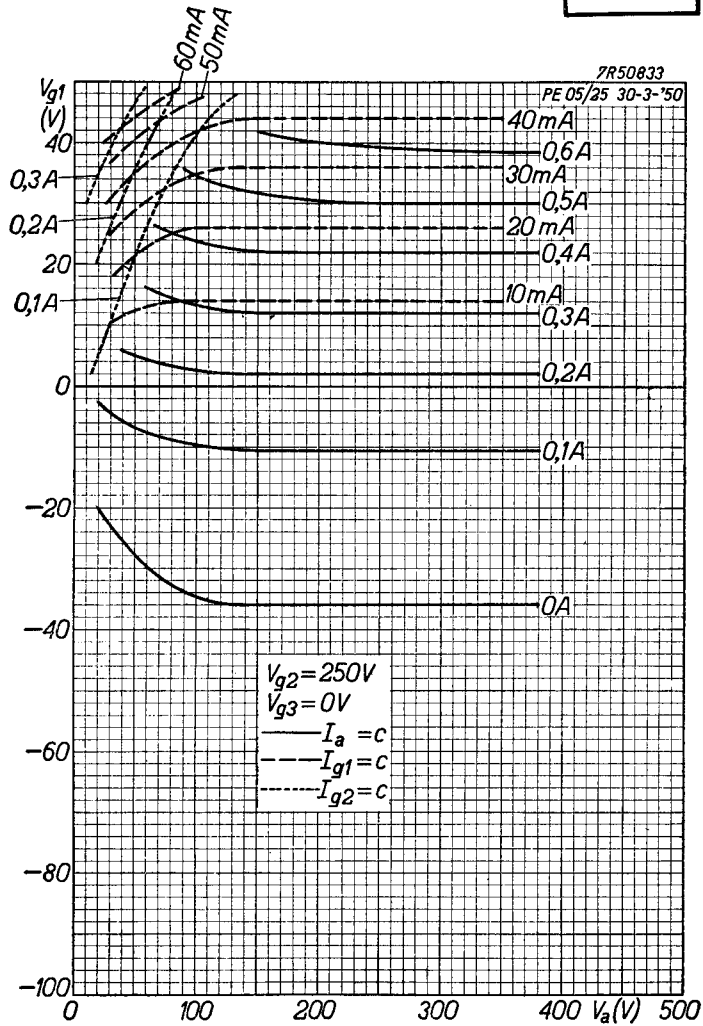
PE 05/25



PHILIPS

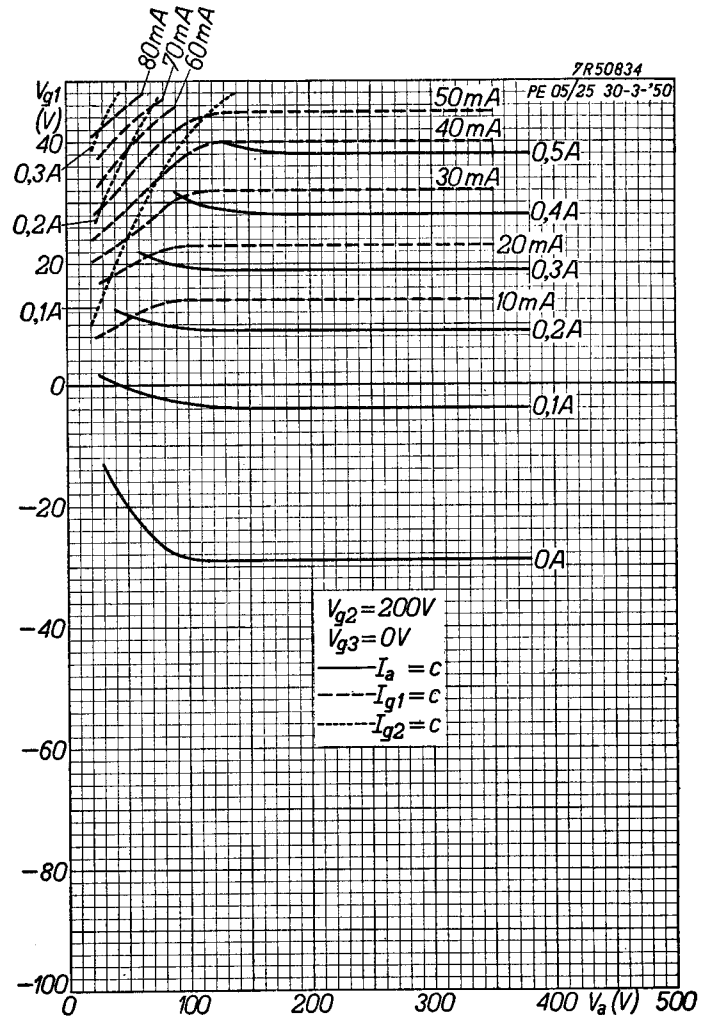

7R50832
PE 05/25 30-3-'50
100
I_{g1} (mA)
$V_{g2} = 250V$
$V_{g3} = 0V$
$V_{g1} = 40V$
30V
20V
10V
50
0
0
100
200
300
V_a (V)
400


100
I_{g1} (mA)
$V_{g2} = 200V$
$V_{g3} = 0V$
$V_{g1} = 40V$
30V
20V
10V
50
0
0
100
200
300
V_a (V)
400


7R50833
PE 05/25 30-3-'50
V_{g1} (V)
60mA
50mA
40mA
0,6A
30mA
0,5A
20mA
0,4A
10mA
0,3A
0,2A
0,1A
0A
0,3A
0,2A
20
40
0
−20
−40
−60
−80
−100
0
100
200
300
400
V_a(V)
500
$V_{g2}=250V$
$V_{g3}=0V$
$I_a=c$
$I_{g1}=c$
$I_{g2}=c$

PE 05/25

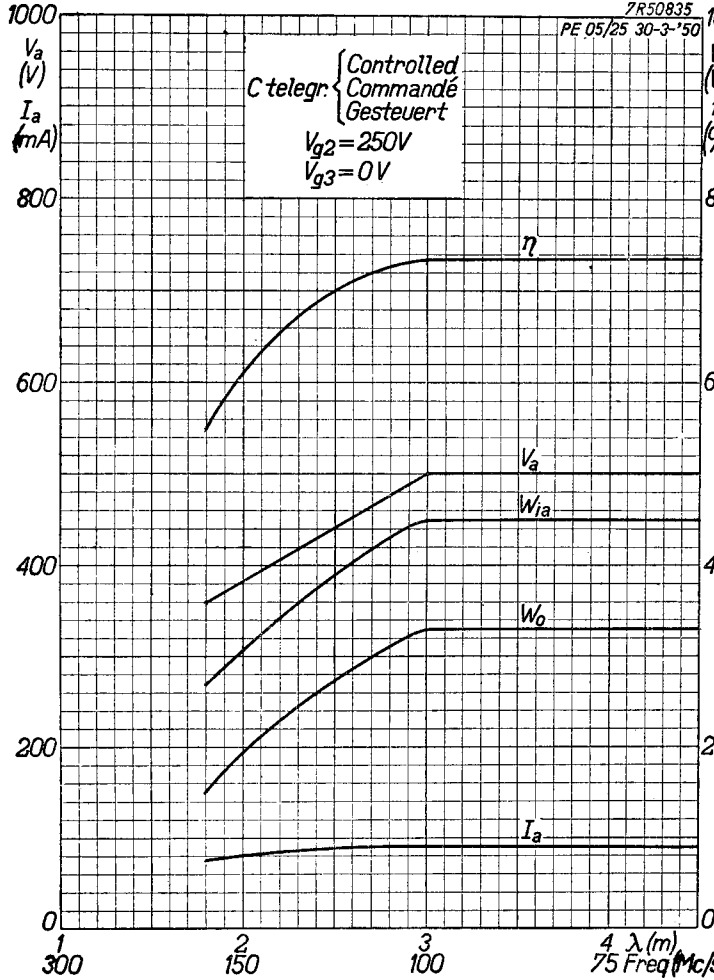
PHILIPS



E

PHILIPS

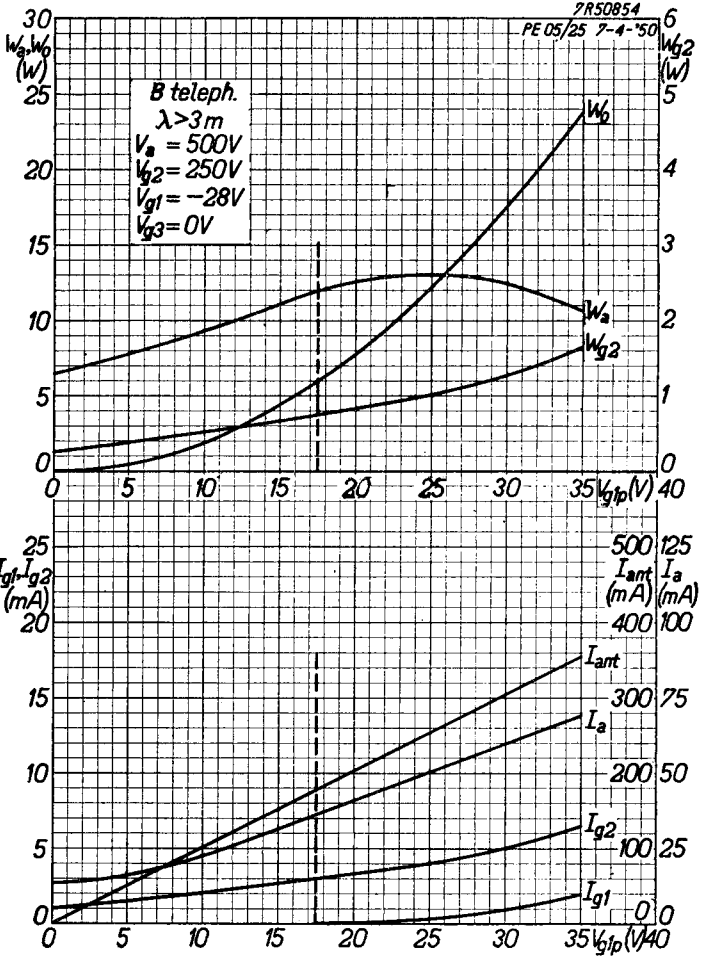
PE 05/25

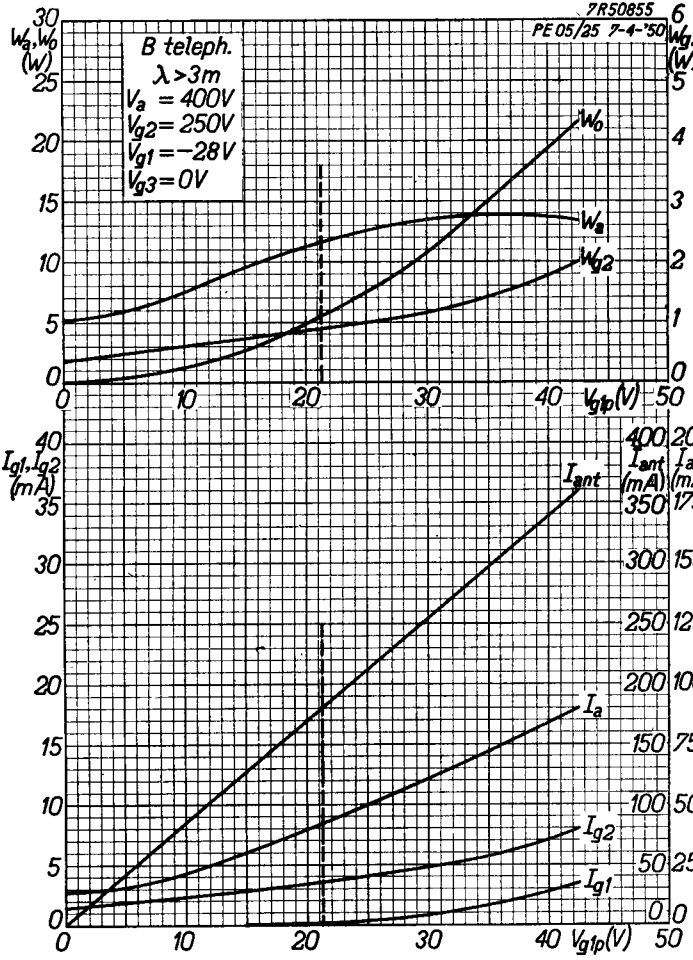


7.7.1954

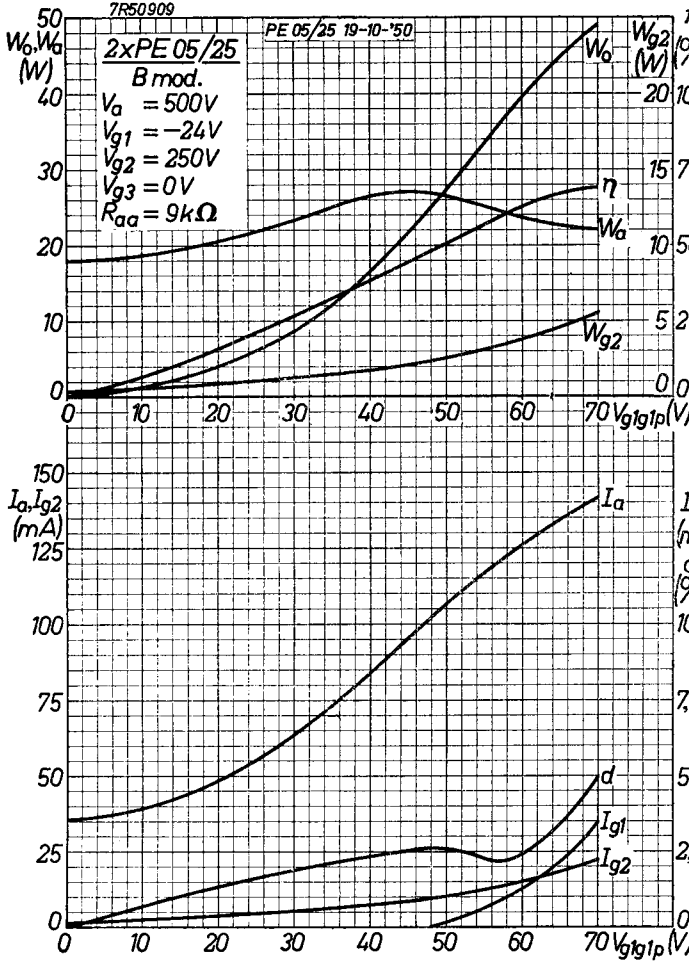
F

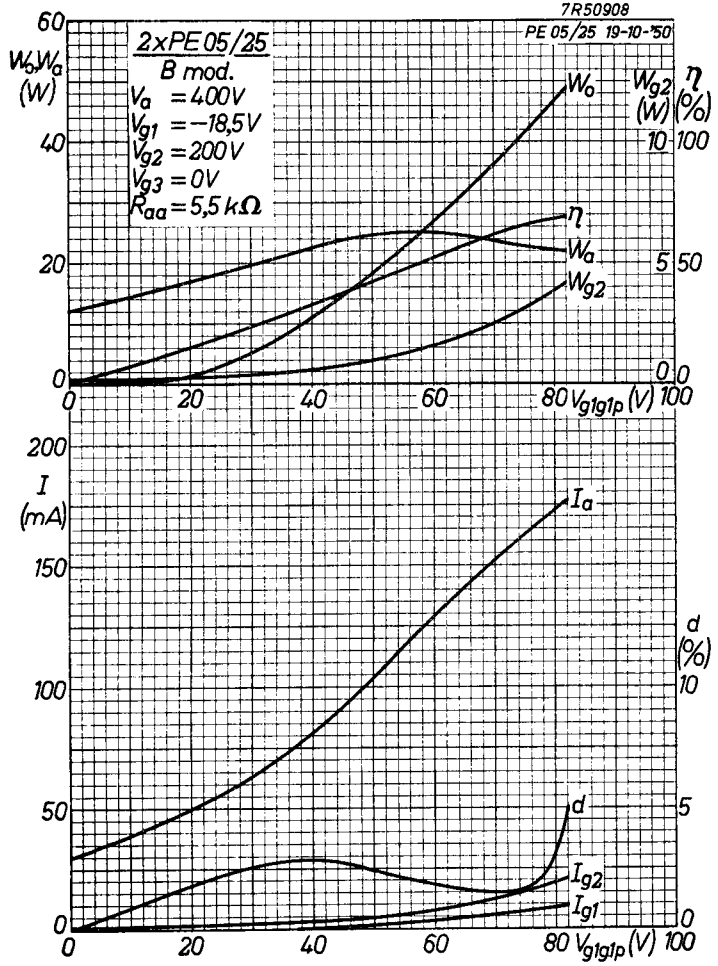
PHILIPS


7R50854
PE 05/25 7-4-'50
B teleph.
λ>3m
Va = 500V
Vg2 = 250V
Vg1 = −28V
Vg3 = 0V
Wa,Wb (W)
Wg2 (W)
Wb
Wa
Wg2
Vg1p (V)
Ig1+Ig2 (mA)
Iant (mA)
Ia (mA)
Iant
Ia
Ig2
Ig1
Vg1p (V)


7R50855
PE 05/25 7-4-'50
B teleph.
λ>3m
Va = 400V
Vg2 = 250V
Vg1 = −28V
Vg3 = 0V
Wa, Wo (W)
Wg2 (W)
Wo
Wa
Wg2
Vg1p (V)
Ig1, Ig2 (mA)
Iant (mA)
Ia (mA)
Iant
Ia
Ig2
Ig1

PHILIPS


7R50909
PE 05/25 19-10-'50
2xPE 05/25
B mod.
V_a = 500V
V_{g1} = −24V
V_{g2} = 250V
V_{g3} = 0V
R_{aa} = 9kΩ
W_o, W_a (W)
W_{g2} (W)
η (%)
W_o
η
W_a
W_{g2}
V_{g1g1p} (V)
I_a, I_{g2} (mA)
I_{g1} (mA), d (%)
I_a
d
I_{g1}
I_{g2}
V_{g1g1p} (V)

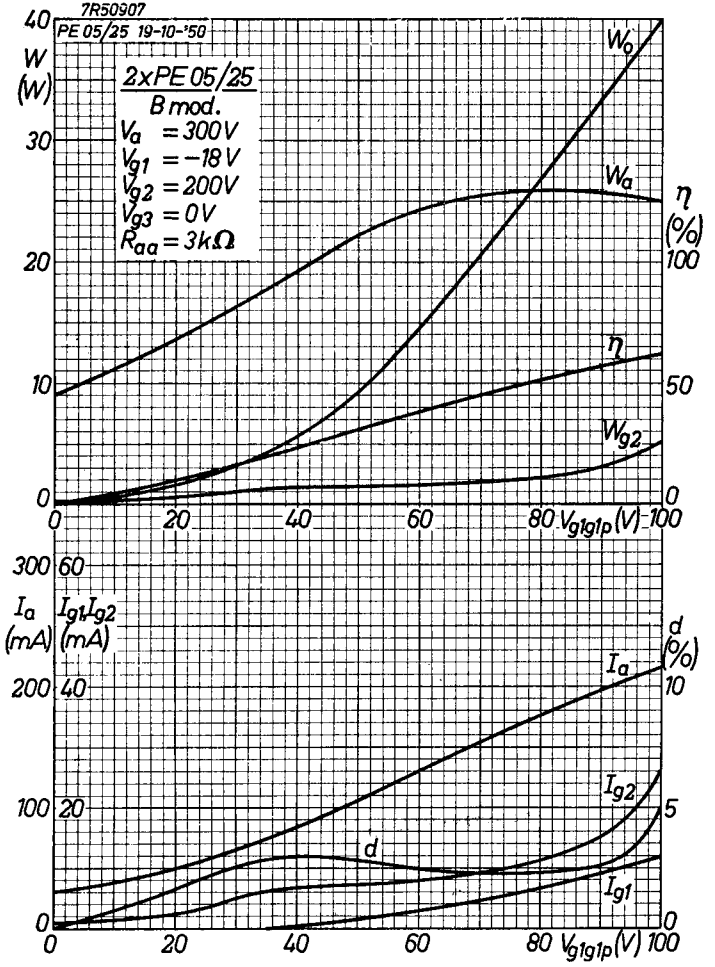

7R50908
PE 05/25 19-10-'50
2xPE 05/25
B mod.
V_a = 400V
V_{g1} = −18,5V
V_{g2} = 200V
V_{g3} = 0V
R_{aa} = 5,5 kΩ
W_o, W_a (W)
W_{g2} (W)
η (%)
W_o
η
W_a
W_{g2}
V_{g1g1p} (V)
I (mA)
I_a
I_{g2}
I_{g1}
d (%)
d

7.7.1954

J

PE 05/25

PHILIPS



K

PE05/25

page	sheet	date
1	1	1954.07.07
2	2	1954.07.07
3	3	1950.03.03
4	4	1950.03.03
5	5	1954.07.07
6	A	1954.07.07
7	B	1954.07.07
8	C	1954.07.07
9	D	1954.07.07
10	E	1954.07.07
11	F	1954.07.07
12	G	1954.07.07
13	H	1954.07.07
14	I	1954.07.07
15	J	1954.07.07
16	K	1954.07.07
17	FP	2000.05.05