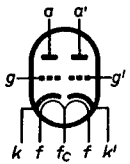
PHILIPS ECC 81

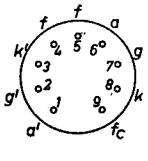
R.F.DOUBLE TRIODE for use as oscillator, mixer or amplifier in television receivers
DOUBLE TRIODE H.F. pour utilisation en oscillatrice, mélangeuse ou amplificatrice dans des récepteurs de télévision
HF-DOPPELTRIODE zur Verwendung als Oszillator, Mischröhre oder Verstärker in Fernsehempfängern

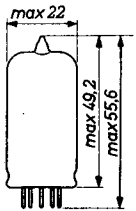
Heating : indirect by A.C. or D.C.; series or parallel supply
Chauffage: indirect par C.A. ou C.C.; alimentation parallèle ou série
Heizung : indirekt durch Wechsel- oder Gleichstrom; Serien- oder Parallelspeisung

Vf	=	6,3 V	Vf	=	12,6 V
If	=	300 mA[1])	If	=	150 mA[1])
Pins Broches Stifte		9-(4+5)	Pins Broches Stifte		4-5

Dimensions in mm
Dimensions en mm
Abmessungen in mm







Base, culot, Sockel: Noval

[1]) In case of series supply a current-limiting device must be inserted in the heater circuit for limiting the current when switching on.

En cas d'alimentation en série il faut utiliser un limiteur de courant pour limiter le courant près de la mise en circuit.

Bei Serienspeisung muss ein Strombegrenzer verwendet werden, damit der Heizstrom beim Einschalten begrenzt wird.

Capacitances
Capacités
Kapazitäten

C_g	= 2,3 pF	$C_{g'}$	= 2,3 pF
C_a	= 0,45 pF	$C_{a'}$	= 0,35 pF
C_{ag}	= 1,6 pF	$C_{a'g'}$	= 1,6 pF
C_{ak}	= 0,20 pF	$C_{a'k'}$	= 0,20 pF
C_{kf}	= 2,5 pF	$C_{k'f}$	= 2,5 pF
$C_{k/g+f}$	= 4,7 pF	$C_{k'/g'+f}$	= 4,7 pF
$C_{a/g+f}$	= 1,9 pF	$C_{a'/g'+f}$	= 1,8 pF
C_{gf}	< 0,17 pF	$C_{g'f}$	< 0,17 pF

$C_{aa'}$ < 0,4 pF
$C_{gg'}$ < 0,005 pF
$C_{ag'}$ < 0,07 pF
$C_{a'g}$ < 0,04 pF

Typical characteristics
Caractéristiques types
Kenndaten

V_B =	100	170	200	250 V
V_g =	-1,0	-1,0	-1,0	-2,0 V
I_a =	3,0	8,5	11,5	10 mA
S =	3,75	5,9	6,7	5,5 mA/V
μ =	62	66	70	60
R_i =	16,5	11	10,5	11 kΩ

Limiting values (each section)
Caractéristiques limites (par système)
Grenzdaten (pro System)

V_{a_o}	= max. 550 V
V_a	= max. 300 V
W_a	= max. 2,5 W
I_k	= max. 15 mA
$-V_g$	= max. 50 V
R_g	= max. 1 MΩ[1])
V_g (I_g = +0,3 µA)	= max. -1,3 V
V_{kf}	= max. 90 V
R_{kf}	= max. 20 kΩ

[1]) With automatic grid bias
Avec polarisation de grille automatique
Mit automatischer Gittervorspannung

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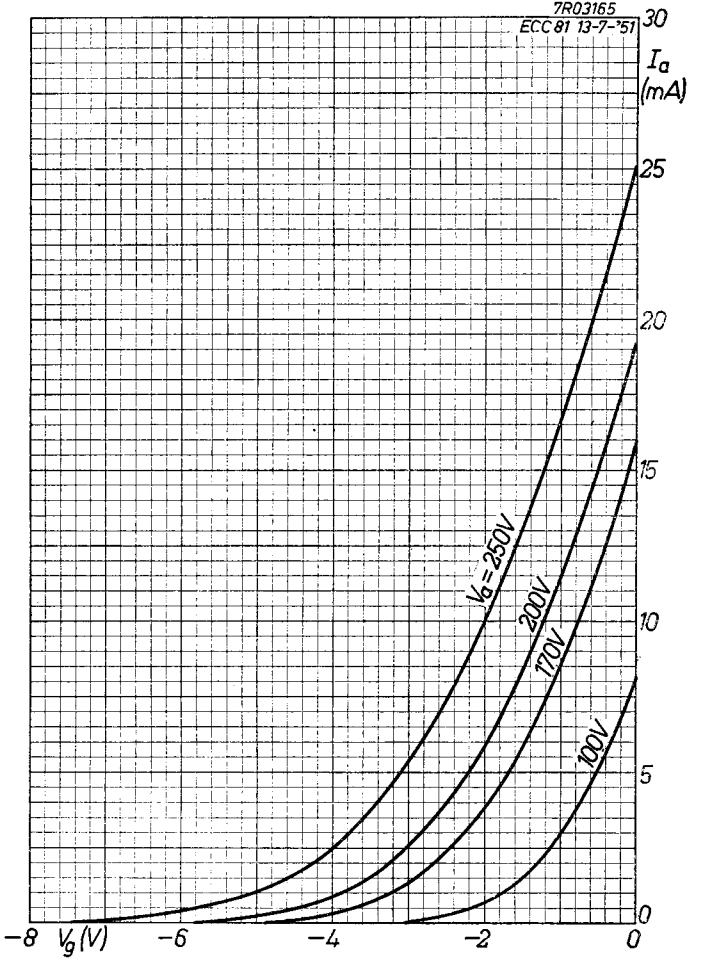

6.6.1951

A

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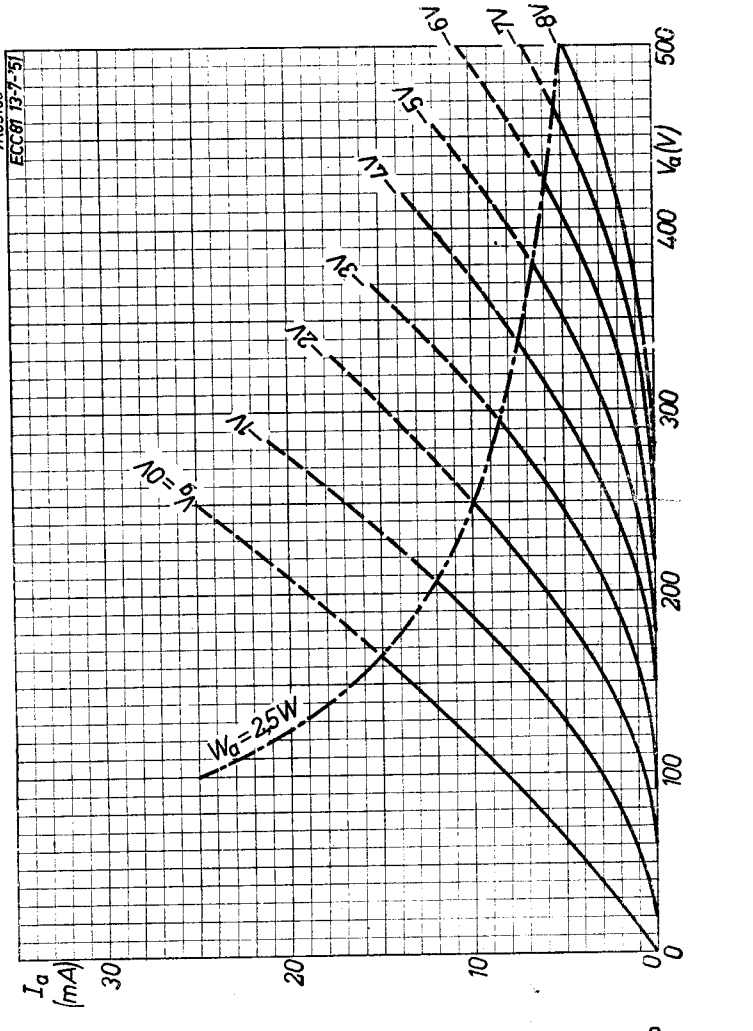

B

7R04457
ECC 81 13-12-54
S (mA/V)
−Vg (V)
Ri (kΩ)
μ
Ia (mA)
Va = 100V
μ
S
Ri
Vg

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7R04459
ECC 81 13-12-'54
S (mA/V)
−Vg (V)
10
8
6
4
2
0
12 Ia(mA) 14
0
2
4
6
8
10
Va = 200V
μ
S
Ri
Vg
50 100
Ri
μ
(kΩ)
40
80
30
60
20
40
10
20
0
0

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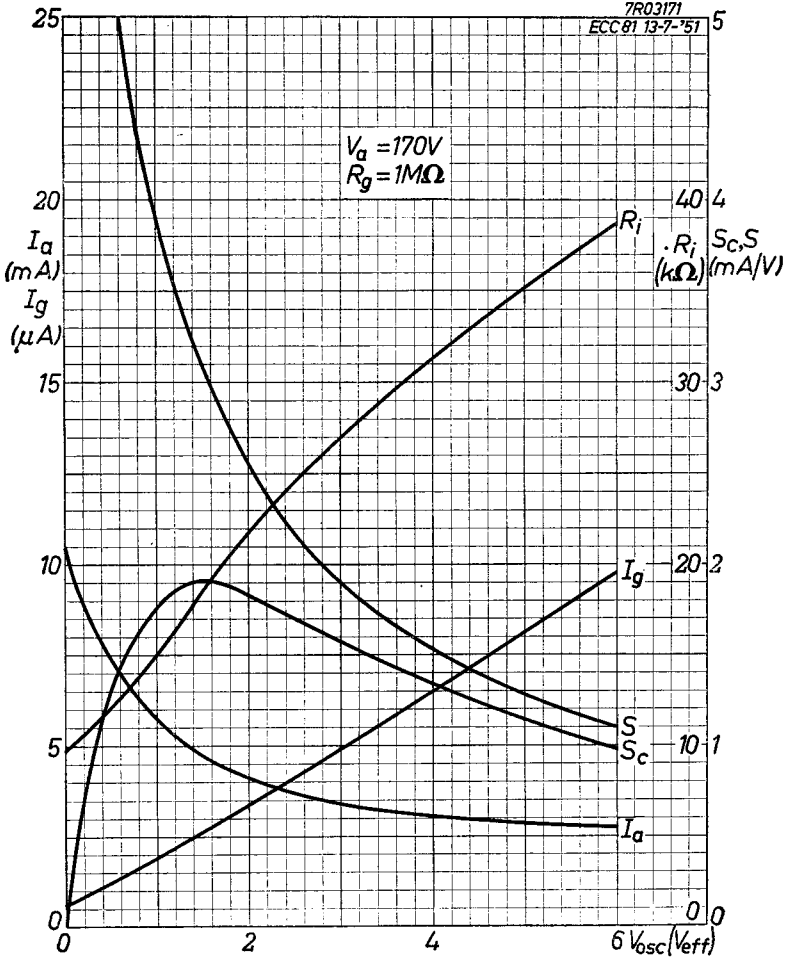

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G

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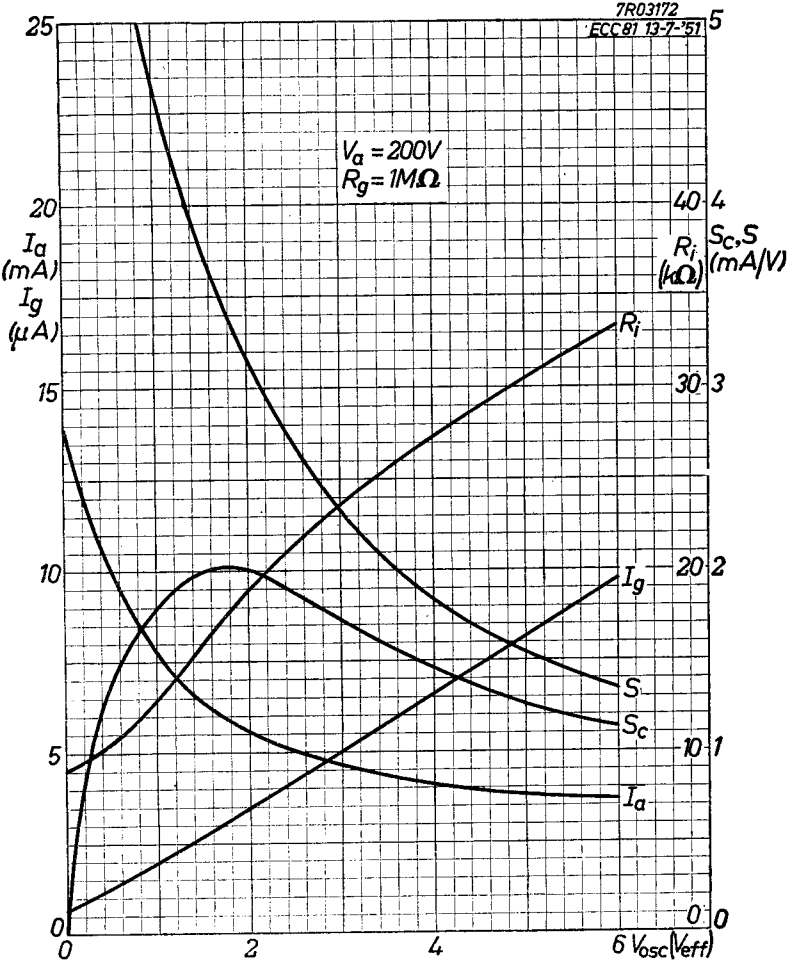
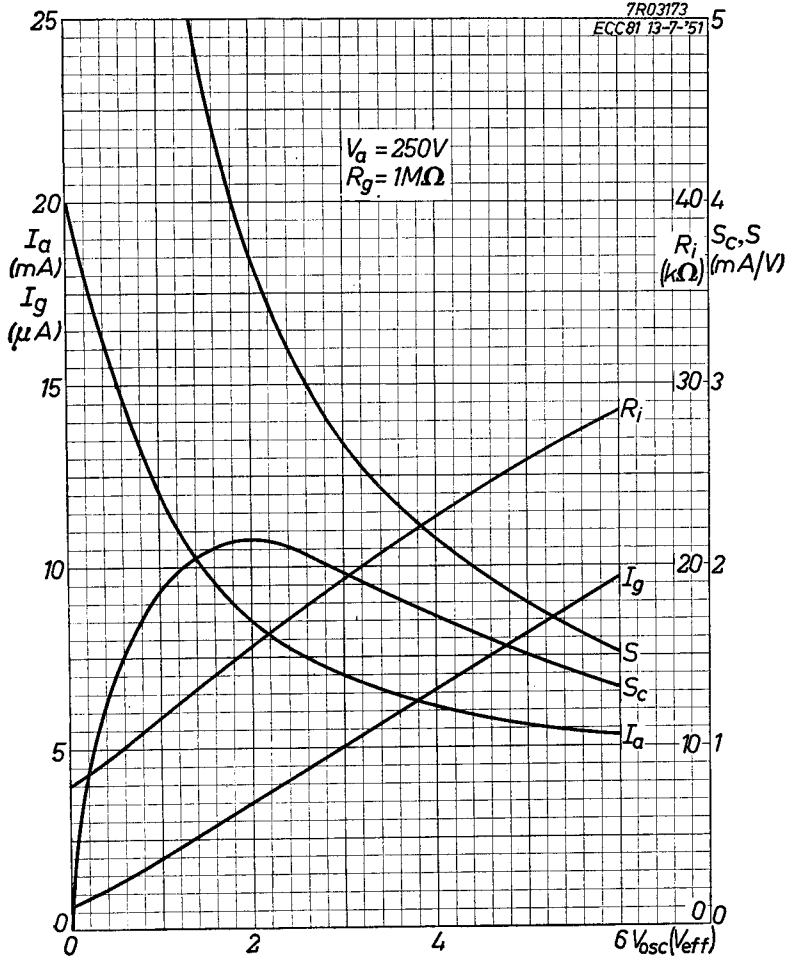


H


7R03173
ECC81 13-7-'51
V_a = 250V
R_g = 1MΩ
I_a (mA)
I_g (μA)
R_i (kΩ)
S_c, S (mA/V)
R_i
I_g
S
S_c
I_a
25
20
15
10
5
0
5
4
3
2
1
0
40
30
20
10
0
0
2
4
6 V_{osc} (V_{eff})

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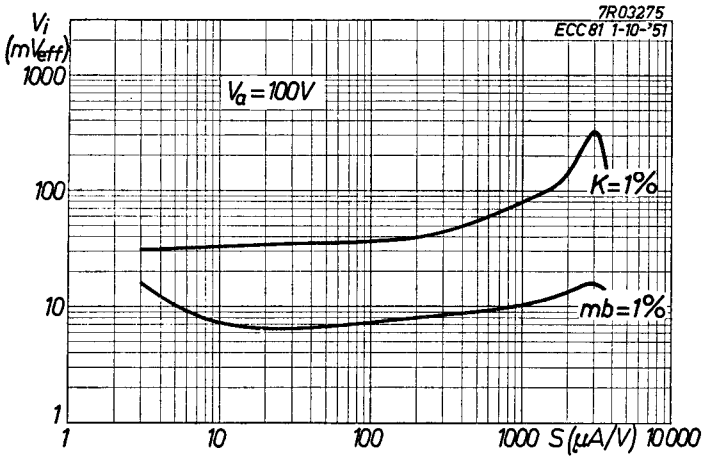
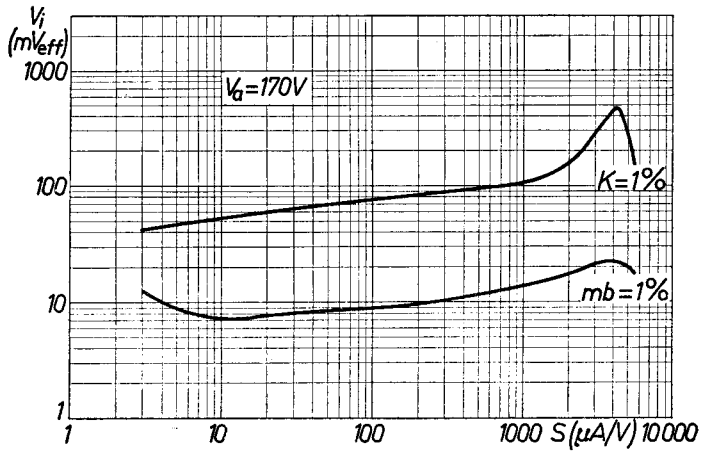
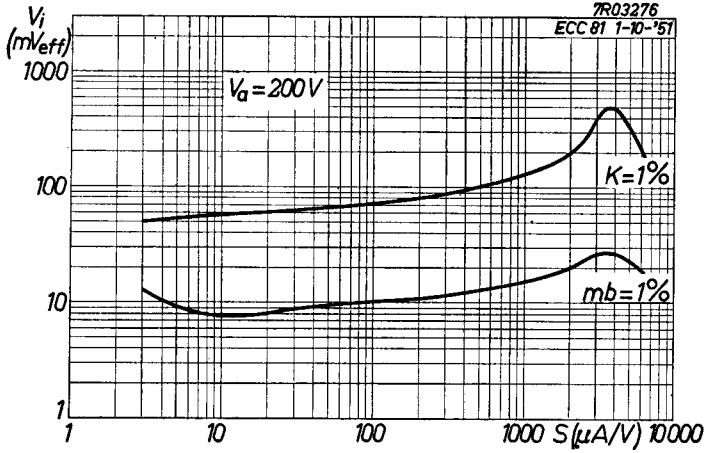
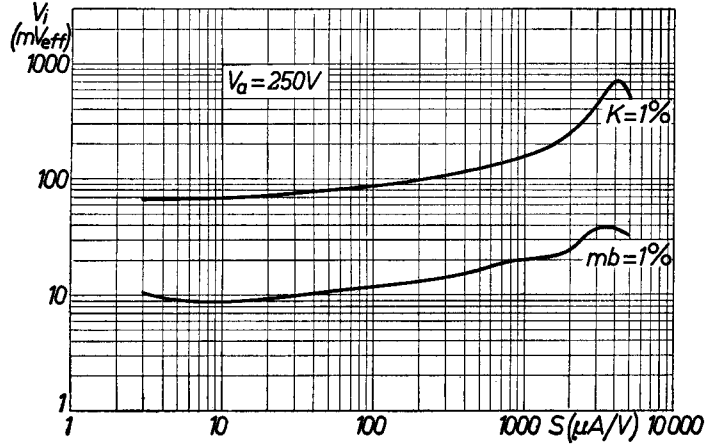

7R03275
ECC 81 1-10-³51
Vi (mVeff)
1000
100
10
1
Va=100V
K=1%
mb=1%
1
10
100
1000 S(µA/V) 10000


Vi (mVeff)
1000
100
10
1
Va=170V
K=1%
mb=1%
1
10
100
1000 S(µA/V) 10000


7R03276
ECC 81 1-10-'51
V_i (mV_{eff})
1000
100
10
1
$V_a = 200V$
K=1%
mb=1%
1
10
100
1000 S(μA/V) 10000


V_i (mV_{eff})
1000
100
10
1
$V_a = 250V$
K=1%
mb=1%
1
10
100
1000 S(μA/V) 10000

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Electronic Tube

HANDBOOK

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2	2	1955.03.03
3	A	1951.06.06
4	B	1951.06.06
5	C	1955.01.01
6	D	1955.01.01
7	E	1955.01.01
8	F	1955.01.01
9	G	1951.06.06
10	H	1951.06.06
11	I	1951.10.10
12	J	1951.10.10
13	K	1951.10.10
14	FP	1999.02.16