DOUBLE TETRODE for use as H.F. amplifier and oscillator
DOUBLE TETRODE pour utilisation en amplificatrice et oscillatrice H.F.
DOPPELTETRODE zur Verwendung als HF-Verstärker und Oszillator

Cathode : oxide coated Cathode : oxyde Katode : Oxyd	V_f =	6,3	12,6 V
	I_f =	1,6	0,8 A
Heating : indirect Chauffage: indirect Heizung : indirekt	Pins Broches 5-(1+7) Stifte		1-7
Capacitances Capacités Kapazitäten	per system C_a =	3,8 pF	
	par système C_{g1} =	8 pF	
	pro System C_{ag1} <	0,07 pF	
	C_{g2k} =	65 pF[1]	
Typical characteristics Caractéristiques types Kenndaten	μ_{g2g1} =	6,5	
	$S(I_a=30mA)$[2] =	3 mA/V	

λ	Freq.	C telegr.[3]			Cag2 mod.[3]		
(m)	(Mc/s)	V_a (V)	W_o (W)		V_a (V)	W_o (W)	
			CCS	ICAS		CCS	ICAS
1,5	200	750	26	35	600	17	26
		500	26		425	16	
1,2	250	500	23				

Temperature of anode and pin seals
Température des scellements de l'anode et des broches max.180 °C
Temperatur der Anoden- und Stifteneinschmelzungen

bulb temperature
Température de l'ampoule max.220 °C
Kolbentemperatur

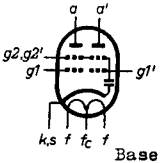
[1] Including internal capacitor between grid No.2 and cathode
Y compris le condensateur interne entre grille No.2 et la cathode
Einschliesslich des inneren Kondensators zwischen Gitter 2 und Katode

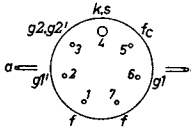
[2] Per system; par système; pro System

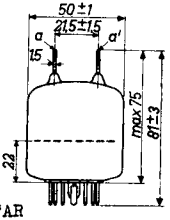
[3] Two systems in push-pull; deux systèmes en push-pull; zwei Systeme in Gegentakt

PHILIPS

Dimensions in mm
Dimensions en mm
Abmessungen in mm







Base, culot, Sockel: SEPTAR

Socket
Support
Fassung 40202

Anode clips
Bornes de connexion de l'anode 40615
Anodenanschlussklemmen

Mounting position: arbitrary
Montage : arbitrairement
Aufstellung : willkürlich

Net weight
Poids net 60 g
Nettogewicht

Shipping weight
Poids brut 150 g
Bruttogewicht

H.F. class C telegraphy, two systems in push-pull
H.F. classe C télégraphie, deux systèmes en push-pull
HF Klasse C Telegraphie, zwei Systeme in Gegentakt

Limiting values, continuous service
C.C.S. Caractéristiques limites, service continu
Grenzdaten, Dauerbetrieb

f	= max. 200 Mc/s	f = max. 250 Mc/s
V_a	= max. 750 V	V_a = max. 670 V
W_{ia}	= max. 2x18 W	W_{ia} = max. 2x16 W
W_a	= max. 2x7,5 W	
I_a	= max. 2x45 mA	
V_{g2}	= max. 250 V	
W_{g2}	= max. 5 W	
$-V_{g1}$	= max. 175 V	
I_{g1}	= max. 2x5 mA	
R_{g1}	= max. 50 kΩ[1])	
R_{g1}	= max. 25 kΩ[2])	
V_{kf}	= max. 100 V	

Operating conditions, continuous service
C.C.S. Caractéristiques d'utilisation, service continu
Betriebsdaten, Dauerbetrieb

f	=	200	200	200	250	250 Mc/s
V_a	=	750	500	400	500	400 V
V_{g2}	=	200	200	200	200	200 V
V_{g1}	=	-65	-65	-65	-65	-65 V
I_a	=	2x24	2x36	2x45	2x32	2x40 mA
I_{g2}	=	15	14	14	12	14 mA
I_{g1}	=	2x1,4	2x1,3	2x1,4	2x0,9	2x1,0 mA
$V_{g1g1'p}$	=	150	150	150	140	140 V
W_{ig1}	=	2x0,10	2x0,09	2x0,10	2x0,06	2x0,07 W
W_{g2}	=	3,0	2,8	2,8	2,4	2,8 W
W_{ia}	=	2x18	2x18	2x18	2x16	2x16 W
W_a	=	2x5	2x5	2x5,25	2x7,0	2x7,5 W
W_o	=	26	26	25,5	18	17 W
η	=	72	72	71	56	53 %

[1])Per system; par système; pro System
[2])Per tube; par tube; pro Röhre

H.F. class C telegraphy, two systems in push-pull; continued
H.F. classe C télégraphie, deux systèmes en push-pull; continuation
HF Klasse C Telegraphie, zwei Systeme in Gegentakt; Fortsetzung

I.C.A.S.

Limiting values, intermittent service
Caractéristiques limites, service intermittent
Grenzdaten, aussetzender Betrieb

	f = max. 200 Mc/s	f = max. 250 Mc/s
V_a	= max. 750 V	= max. 670 V
W_{ia}	= max. 2x25 W	= max. 2x22 W
W_a	= max. 2x10 W	
I_a	= max. 2x57,5 mA	
V_{g2}	= max. 250 V	
W_{g2}	= max. 5 W	
$-V_{g1}$	= max. 175 V	
I_{g1}	= max. 2x5 mA	
R_{g1}	= max. 50 kΩ [1]	
R_{g1}	= max. 25 kΩ [2]	
V_{kf}	= max. 100 V	

I.C.A.S.

Operating conditions, intermittent service
Caractéristiques d'utilisation, service intermittent
Betriebsdaten, aussetzender Betrieb

f	=	200 Mc/s
V_a	=	750 V
V_{g2}	=	200 V
V_{g1}	=	-50 V
I_a	=	2x32,5 mA
I_{g2}	=	22 mA
I_{g1}	=	2x2,0 mA
$V_{g1g1'p}$	=	130 V
W_{ig1}	=	2x0,12 W
W_{g2}	=	4,4 W
W_{ia}	=	2x24,4 W
W_a	=	2x6,9 W
W_o	=	35 W
η	=	72 %

1) Per system; par système; pro System
2) Per tube; par tube; pro Röhre

H.F. class C anode and screen grid modulation, two systems in push-pull
H.F. classe C modulation d'anode et de grille-écran, deux systèmes en push-pull
HF Klasse C Anoden- und Schirmgittermodulation, zwei Systeme in Gegentakt

Limiting values, continuous service
C.C.S. Caractéristiques d'utilisation, service continu
Grenzdaten, Dauerbetrieb

	f = max. 200 Mc/s	f = max. 250 Mc/s
V_a	= max. 600 V	= max. 530 V
W_{ia}	= max. 2x11 W	= max. 2x10 W
W_a	= max. 2x5 W	
I_a	= max. 2x37,5 mA	
V_{g2}	= max. 250 V	
W_{g2}	= max. 3,4 W	
$-V_{g1}$	= max. 175 V	
I_{g1}	= max. 2x5 mA	
R_{g1}	= max. 50 kΩ[1]	
R_{g1}	= max. 25 kΩ[2]	
V_{kf}	= max. 100 V	

Operating conditions, continuous service
C.C.S. Caractéristiques d'utilisation, service continu
Betriebsdaten, Dauerbetrieb

f	=	200	200 Mc/s
V_a	=	600	425 V
V_{g2}	=	200	200 V
V_{g1}	=	-65	-60 V
I_a	=	2x18	2x26 mA
I_{g2}	=	16	16 mA
I_{g1}	=	2x1,3	2x1,2 mA
$V_{g1g1'p}$	=	150	140 V
W_{ig1}	=	2x0,09	2x0,075 W
W_{g2}	=	3,2	3,2 W
W_{ia}	=	2x10,8	2x11 W
W_a	=	2x2,3	2x3 W
W_o	=	17	16 W
η	=	79	72 %
m	=	100	100 %
W_{mod}	=	13,5	13,5 W

[1])Per system; par système; pro System
[2])Per tube; par tube; pro Röhre

H.F. class C anode and screen grid modulation, two systems in push-pull; continued
H.F. classe C modulation d'anode et de grille-écran, deux systèmes en push-pull; continuation
HF Klasse C Anoden- und Schirmgittermodulation, zwei Systeme in Gegentakt; Fortsetzung

Limiting values, intermittent service
I.C.A.S. Caractéristiques limites, service intermittent
Grenzdaten, aussetzender Betrieb

f	= max.	200 Mc/s
V_a	= max.	600 V
W_{ia}	= max.	2x18 W
W_a	= max.	2x7,5 W
I_a	= max.	2x47,5 mA
V_{g2}	= max.	250 V
W_{g2}	= max.	5 W
$-V_{g1}$	= max.	175 V
I_{g1}	= max.	2x5 mA
R_{g1}	= max.	50 kΩ [1]
R_{g1}	= max.	25 kΩ [2]
V_{kf}	= max.	100 V

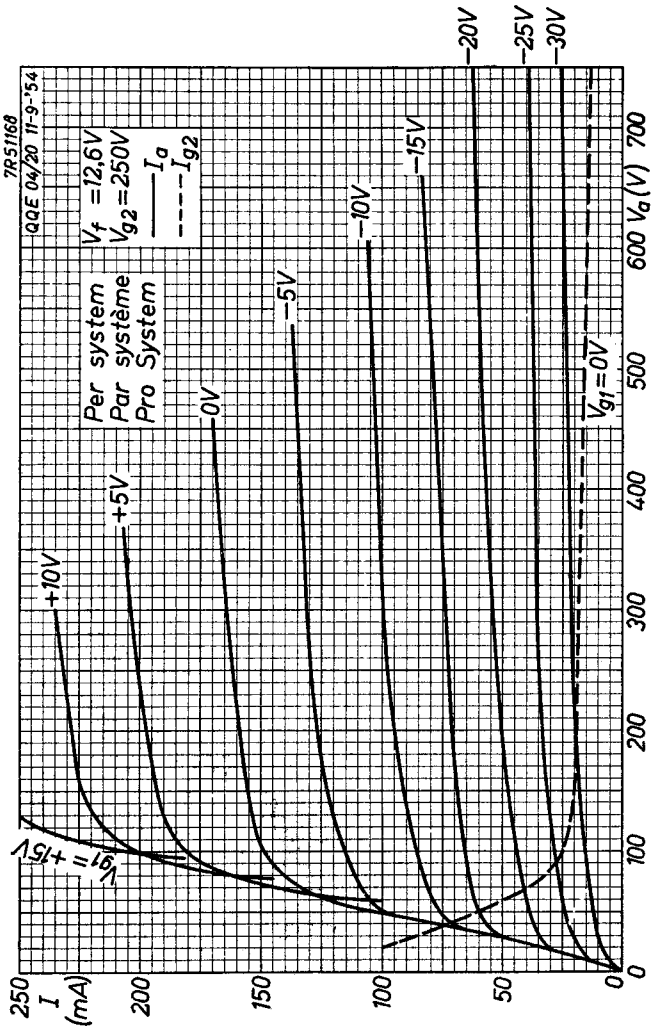
Operating conditions, intermittent service
I.C.A.S. Caractéristiques d'utilisation, service intermittent
Betriebsdaten, aussetzender Betrieb

f	=	200 Mc/s
V_a	=	600 V
V_{g2}	=	200 V
V_{g1}	=	-70 V
I_a	=	2x30 mA
I_{g2}	=	20 mA
I_{g1}	=	2x1,5 mA
$V_{g1g1'p}$	=	160 V
W_{ig1}	=	2x0,105 W
W_{g2}	=	4,0 W
W_{ia}	=	2x18 W
W_a	=	2x5 W
W_o	=	26 W
η	=	72 %
m	=	100 %
W_{mod}	=	20 W

[1])Per system; par système; pro System
[2])Per tube; par tube; pro Röhre

PHILIPS

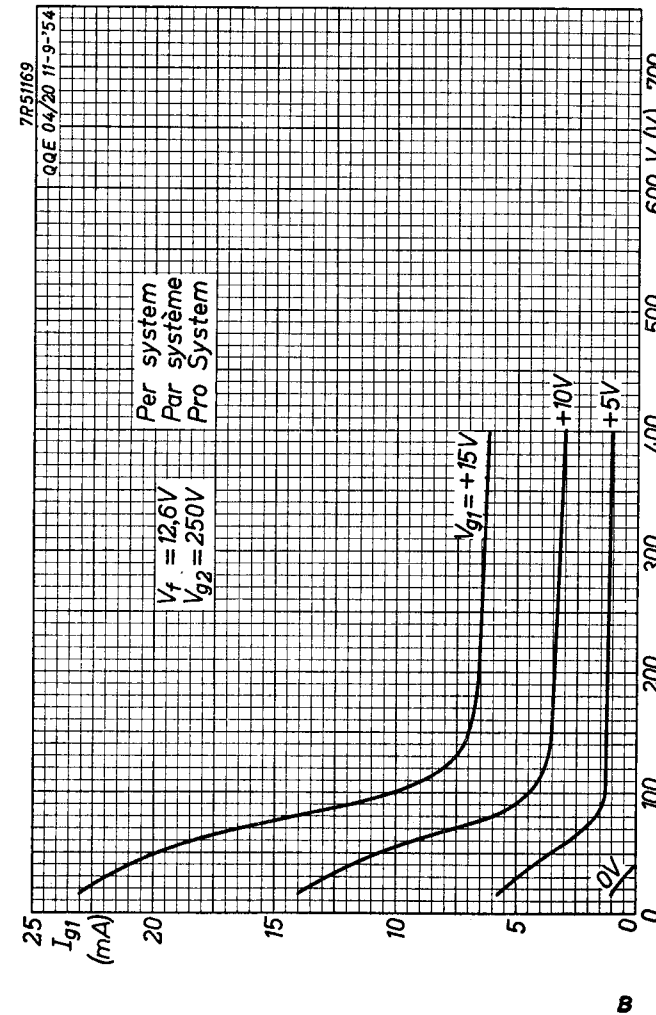
QQE 04/20



7. 7. 1954

A

PHILIPS


7R51169
QQE 04/20 11-9-'54
I_{g1} (mA)
25
20
15
10
5
0
0
100
200
300
400
500
600
700
V_a(V)
V_f = 12,6V
V_{g2} = 250V
Per system
Par système
Pro System
V_{g1} = +15V
+10V
+5V
0V

PHILIPS

Electronic Tube

HANDBOOK

QQE04/20

page	sheet	date
1	1	1954.07.07
2	2	1954.07.07
3	3	1954.07.07
4	4	1954.07.07
5	5	1954.07.07
6	6	1954.07.07
7	A	1954.07.07
8	B	1954.07.07
9	FP	1999.11.06