

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

Cooling : radiation/low velocity air flow  
 Refroidissement: radiation/léger courant d'air  
 Kühlung : Strahlung/schwacher Luftstrom

Filament : thoriated tungsten  
 Filament : tungstène thorié  
 Heizfaden: thoriertes Wolfram

Heating : direct  
 Chauffage: direct  
 Heizung : direkt

$V_f = 5 \text{ V}$   
 $I_f = 14,1 \text{ A}$

Capacitances  
 Capacités  
 Kapazitäten

$C_a = 4,5 \text{ pF}$   
 $C_{g1} = 12,7 \text{ pF}$   
 $C_{ag1} = 0,12 \text{ pF}$

Typical characteristics  
 Caractéristiques types  
 Kenndaten

$\mu_{g2g1} = 5,1$   
 $S (I_a=100 \text{ mA}) = 4 \text{ mA/V}$

| $\lambda$ | Freq. | C telegr.    |              | B teleph.    |              | $C_{ag2} \cdot \text{mod.}$ |              | $B_{\text{mod}}^1)$ |              |
|-----------|-------|--------------|--------------|--------------|--------------|-----------------------------|--------------|---------------------|--------------|
| m         | Mc/s  | $V_a$<br>(V) | $W_o$<br>(W) | $V_a$<br>(V) | $W_o$<br>(W) | $V_a$<br>(V)                | $W_o$<br>(W) | $V_a$<br>(V)        | $W_o$<br>(W) |
| >4        | <75   | 4000         | 1000         | 4000         | 126          | 3000                        | 510          | 3000                | 1240         |
|           |       | 3000         | 800          | 3000         | 125          | 2500                        | 375          | 2500                | 1140         |
|           |       | 2500         | 575          | 2500         | 125          |                             |              | 2000                | 974          |
| 2,5       | 120   | 2500         | 500          |              |              |                             |              | 1500                | 660          |

<sup>1)</sup> Two tubes; deux tubes; zwei Röhren

Temperatures and cooling  
 Températures et refroidissement  
 Temperaturen und Kühlung

Temperature of anode seal  
 Température du scellement de l'anode = max. 220 °C  
 Temperatur der Anodeneinschmelzung

Temperature of pin seals  
 Température des scellements des broches = max. 180 °C  
 Temperatur der Stifteneinschmelzungen

Bulb temperature  
 Température de l'ampoule = max. 350 °C  
 Kolbentemperatur

In order to keep the temperatures below the maximum permitted values a low velocity air flow has to be directed onto the anode seal and the bottom of the envelope.

In order to prevent overheating of the screen-grid pins by high-frequency current it is recommended to include both screen-grid socket connections in the circuit.

Afin de maintenir les températures au-dessous des valeurs maximum admissible, il sera nécessaire de diriger un léger courant d'air vers le scellement de l'anode et vers le fond de l'ampoule.

Il est recommandé d'incorporer les deux bornes de raccordement de la grille-écran dans le circuit pour éviter le surchauffage des broches de la grille-écran par le courant haute fréquence.

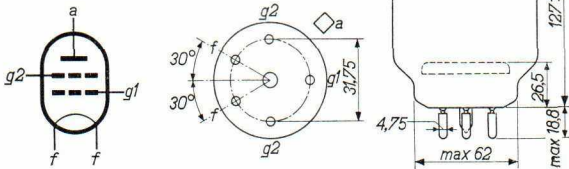
Damit die Temperaturen unterhalb der höchstzulässigen Werte bleiben, soll ein schwacher Luftstrom auf die Anodeneinschmelzung und auf den Boden des Kolbens gerichtet werden.

Es empfiehlt sich, zur Vermeidung einer Überhitzung der Schirmgitterstifte vom Hochfrequenzstrom, beide Anschlusssklemmen an der Schaltung zu beteiligen.

Net weight  
 Poids net 185 g  
 Nettogewicht

Shipping weight  
 Poids brut 910 g  
 Bruttogewicht

Dimensions in mm  
Dimensions en mm  
Abmessungen in mm



Base, culot, Sockel: GIANT 5-PIN.

Socket  
Support  
Fassung

40211/01

Clip  
Borne de connexion  
Anschlussklemme

40624

Mounting position: vertical with base up or down  
Montage : vertical avec le culot en haut ou en bas  
Einbau : senkrecht mit dem Sockel oben oder unten

H.F. class C telegraphy  
H.F. classe C télégraphie  
HF - Klasse C Telegraphie

Limiting values  
Caractéristiques limites  
Grenzdaten

$f$  = max. 75 Mc/s

$V_a$  = max. 4000 V

$W_{ia}$  = max. 1250 W

$W_a$  = max. 250 W

$I_a$  = max. 350 mA

$V_{g2}$  = max. 600 V

$W_{g2}$  = max. 35 W

$-V_{g1}$  = max. 500 V

$I_{g1}$  = max. 20 mA

$f$  = max. 100 Mc/s

$V_a$  = max. 3300 V

$W_{ia}$  = max. 1000 W

$f$  = max. 120 Mc/s

$V_a$  = max. 2500 V

$W_{ia}$  = max. 750 W

Operating conditions  
Caractéristiques d'utilisation  
Betriebsdaten

|           | 75   | 75   | 75 Mc/s |
|-----------|------|------|---------|
| $f$       |      |      |         |
| $V_a$     | 4000 | 3000 | 2500 V  |
| $V_{g2}$  | 500  | 500  | 500 V   |
| $V_{g1}$  | -225 | -180 | -150 V  |
| $I_a$     | 312  | 345  | 300 mA  |
| $I_{g2}$  | 45   | 60   | 60 mA   |
| $I_{g1}$  | 9    | 10   | 9 mA    |
| $V_{g1p}$ | 303  | 265  | 220 V   |
| $W_{ig1}$ | 2,5  | 2,4  | 1,8 W   |
| $W_{g2}$  | 22,5 | 30   | 30 W    |
| $W_{ia}$  | 1248 | 1035 | 750 W   |
| $W_a$     | 248  | 235  | 175 W   |
| $W_o$     | 1000 | 800  | 575 W   |
| $\eta$    | 80   | 77   | 77 %    |

H.F. class B telephony  
H.F. classe B téléphonie  
HF Klasse B Telephonie

Limiting values  
Caractéristiques limites  
Grenzdaten

| $f$ = max. 75 Mc/s    | $f$ = max. 100 Mc/s   |
|-----------------------|-----------------------|
| $V_a$ = max. 4000 V   | $V_a$ = max. 3300 V   |
| $W_{ia}$ = max. 400 W | $W_{ia}$ = max. 320 W |
| $W_a$ = max. 250 W    |                       |
| $I_a$ = max. 250 mA   | $f$ = max. 120 Mc/s   |
| $V_{g2}$ = max. 600 V | $V_a$ = max. 2500 V   |
| $W_{g2}$ = max. 23 W  | $W_{ia}$ = max. 240 W |

Operating conditions  
Caractéristiques d'utilisation  
Betriebsdaten

| $f$       | 75   | 75   | 75 Mc/s |
|-----------|------|------|---------|
| $V_a$     | 4000 | 3000 | 2500 V  |
| $V_{g2}$  | 500  | 500  | 500 V   |
| $V_{g1}$  | -100 | -90  | -84 V   |
| $I_a$     | 94   | 125  | 150 mA  |
| $I_{g2}$  | 0    | 0    | 0 mA    |
| $V_{g1p}$ | 55,5 | 61   | 66 V    |
| $W_{ia}$  | 376  | 375  | 375 W   |
| $W_a$     | 250  | 250  | 250 W   |
| $W_o$     | 126  | 125  | 125 W   |
| $\eta$    | 33,5 | 33   | 33 %    |
| $m$       | 100  | 100  | 100 %   |
| $I_{g1}$  | 0,5  | 2    | 5,5 mA  |
| $W_{ig1}$ | 0,06 | 0,25 | 0,75 W  |
| $W_{g2}$  | 4    | 3,8  | 6 W     |

H.F. class C anode and screen grid modulation  
 H.F. classe C modulation d'anode et de grille-écran  
 HF Klasse C Anoden- und Schirmgittermodulation

Limiting values  
 Caractéristiques limites  
 Grenzdaten

|           |        |         |          |                 |
|-----------|--------|---------|----------|-----------------|
| $f$       | = max. | 75 Mc/s |          |                 |
| $V_a$     | = max. | 3200 V  | $f$      | = max. 100 Mc/s |
| $W_{ia}$  | = max. | 825 W   | $V_a$    | = max. 2600 V   |
| $W_a$     | = max. | 165 W   | $W_{ia}$ | = max. 660 W    |
| $I_a$     | = max. | 275 mA  |          |                 |
| $V_{g2}$  | = max. | 600 V   |          |                 |
| $W_{g2}$  | = max. | 35 W    | $f$      | = max. 120 Mc/s |
| $-V_{g1}$ | = max. | 500 V   | $V_a$    | = max. 2000 V   |
| $I_{g1}$  | = max. | 20 mA   | $W_{ia}$ | = max. 500 W    |

Operating conditions  
 Caractéristiques d'utilisation  
 Betriebsdaten

|           |   |      |         |
|-----------|---|------|---------|
| $f$       | = | 75   | 75 Mc/s |
| $V_a$     | = | 3000 | 2500 V  |
| $V_{g2}$  | = | 400  | 400 V   |
| $V_{g1}$  | = | -310 | -200 V  |
| $I_a$     | = | 225  | 200 mA  |
| $I_{g2}$  | = | 30   | 30 mA   |
| $I_{g1}$  | = | 9    | 9 mA    |
| $V_{g1p}$ | = | 400  | 280 V   |
| $W_{ig1}$ | = | 3,3  | 2,3 W   |
| $W_{g2}$  | = | 12   | 12 W    |
| $W_{ia}$  | = | 675  | 500 W   |
| $W_a$     | = | 165  | 125 W   |
| $W_o$     | = | 510  | 375 W   |
| $\eta$    | = | 75,5 | 75 %    |
| $m$       | = | 100  | 100 %   |
| $V_{g2p}$ | = | 350  | 350 V   |
| $W_{mod}$ | = | 344  | 256 W   |

<sup>1)</sup>  $V_{g2}$  = max. 1000 V, when the temperature of the pinseals is max. 120 °C

$V_{g2}$  = max. 1000 V, si la température des scellements des broches est de 120°C aux max.

$V_{g2}$  = max. 1000 V, wenn die Temperatur der Stiftendurchführungen max. 120°C ist.

H.F. class B amplifier, single side band  
 Amplificatrice H.F. classe B à une bande latérale  
 HF Einseitenbandverstärker, Klasse B

### Limiting values

Caractéristiques limites  
 Grenzdaten

$f_{max}$  = 30 Mc/s

$V_a$  = max. 4 kV

$I_a$  = max. 350 mA

$W_{ia}$  = max. 1250 W

$W_{ap}$  = max. 275 W<sup>1)</sup>

$W_a$  = max. 250 W

$T_{av}$  = max. 5 sec

$V_{g2}$  = max. 600 V

$W_{g2}$  = max. 35 W

$R_{g1}$  = max. 250 kΩ

### Operating conditions

Caractéristiques d'utilisation

Betriebsdaten

|           |   |         |  |         |  |         |  |         |      |
|-----------|---|---------|--|---------|--|---------|--|---------|------|
| $f$       | = | 30      |  | 30      |  | 30      |  | 30      | Mc/s |
| $V_a$     | = | 4       |  | 3,5     |  | 3       |  | 2,5     | kV   |
| $V_{g1}$  | = | -105    |  | -98     |  | -94     |  | -91     | V    |
| $V_{g2}$  | = | 550     |  | 500     |  | 500     |  | 500     | V    |
| $V_{g1p}$ | = | 0 105   |  | 0 98    |  | 0 94    |  | 0 91    | V    |
| $I_a$     | = | 50 182  |  | 50 164  |  | 50 164  |  | 50 164  | mA   |
| $I_{g1}$  | = | 0 0     |  | 0 0     |  | 0 0     |  | 0 0     | mA   |
| $I_{g2}$  | = | 0 9     |  | 0 9     |  | 0 10    |  | 0 10,5  | mA   |
| $W_{ig1}$ | = | 0 0     |  | 0 0     |  | 0 0     |  | 0 0     | W    |
| $W_{g2}$  | = | 0 5     |  | 0 4,5   |  | 0 5     |  | 0 5,3   | W    |
| $W_{ia}$  | = | 200 730 |  | 175 575 |  | 150 490 |  | 125 410 | W    |
| $W_a$     | = | 200 220 |  | 175 175 |  | 150 157 |  | 125 140 | W    |
| $W_o$     | = | - 510   |  | - 400   |  | - 333   |  | - 270   | W    |
| $\eta$    | = | - 69    |  | - 69    |  | - 68    |  | - 66    | %    |

1) Max. value during a modulation cycle

Valeur max. pendant un cycle de modulation

Max. Wert während eines Modulationszyklus

L.F. class B amplifier and modulator.  $I_{g1} > 0$   
 Amplificatrice et modulatrice B.F. classe B.  $I_{g1} > 0$   
 NF-Verstärker und Modulator Klasse B.  $I_{g1} > 0$

Limiting values. See page 9

Caractéristiques limites. Voir page 9

Grenzdaten. Siehe Seite 9

Operating conditions, two tubes

Caractéristiques d'utilisation, deux tubes

Betriebsdaten, zwei Röhren

|             |   |       |        |       |            |
|-------------|---|-------|--------|-------|------------|
| $V_a$       | = | 3000  |        | 2500  | V          |
| $V_{g2}$    | = | 300   |        | 300   | V          |
| $V_{g1}$    | = | -55   |        | -51   | V          |
| $R_{aa}$    | = | 14    |        | 9,2   | k $\Omega$ |
| $V_{g1g1p}$ | = | 0     | 280    | 0     | 306 V      |
| $I_a$       | = | 2x50  | 2x275  | 2x50  | 2x312 mA   |
| $I_{g2}$    | = | 0     | 2x34,5 | 0     | 2x44 mA    |
| $I_{g1}$    | = | 0     | 2x15   | 0     | 2x21 mA    |
| $W_{ig1}$   | = | 0     | 2x1,9  | 0     | 2x2,9 W    |
| $W_{g2}$    | = | 0     | 2x10,5 | 0     | 2x13 W     |
| $W_{ia}$    | = | 2x150 | 2x825  | 2x125 | 2x780 W    |
| $W_a$       | = | 2x150 | 2x205  | 2x125 | 2x210 W    |
| $W_o$       | = | 0     | 1240   | 0     | 1140 W     |
| $d_{tot}$   | = | -     | 5      | -     | 5 %        |
| $\eta$      | = | -     | 75     | -     | 73 %       |

|             |   |       |        |      |            |
|-------------|---|-------|--------|------|------------|
| $V_a$       | = | 2000  |        | 1500 | V          |
| $V_{g2}$    | = | 300   |        | 300  | V          |
| $V_{g1}$    | = | -49   |        | -45  | V          |
| $R_{aa}$    | = | 6,6   |        | 4,55 | k $\Omega$ |
| $V_{g1g1p}$ | = | 0     | 328    | 0    | 323 V      |
| $I_a$       | = | 2x50  | 2x347  | 2x50 | 2x347 mA   |
| $I_{g2}$    | = | 0     | 2x55   | 0    | 2x58 mA    |
| $I_{g1}$    | = | 0     | 2x27   | 0    | 2x28 mA    |
| $W_{ig1}$   | = | 0     | 2x4    | 0    | 2x4 W      |
| $W_{g2}$    | = | 0     | 2x16,5 | 0    | 2x17,5 W   |
| $W_{ia}$    | = | 2x100 | 2x694  | 2x75 | 2x520 W    |
| $W_a$       | = | 2x100 | 2x207  | 2x75 | 2x190 W    |
| $W_o$       | = | 0     | 974    | 0    | 660 W      |
| $d_{tot}$   | = | -     | 5      | -    | 5 %        |
| $\eta$      | = | -     | 70     | -    | 63,5 %     |

L.F. class B amplifier and modulator.  $I_{g1} = 0$   
 Amplificatrice et modulatrice B.F. classe B.  $I_{g1} = 0$   
 NF-Verstärker und Modulator Klasse B.  $I_{g1} = 0$

|                          |           |        |                     |
|--------------------------|-----------|--------|---------------------|
| Limiting values          | $I_a$     | = max. | 350 mA              |
| Caractéristiques limites | $V_{g2}$  | = max. | 600 V <sup>1)</sup> |
| Grenzdaten               | $W_{g2}$  | = max. | 35 W                |
|                          | $-V_{g1}$ | = max. | 500 V               |
| $V_a$                    | $I_{g1}$  | = max. | 30 mA               |
| $W_a$                    | $R_{g1}$  | = max. | 250 kΩ              |
|                          |           |        |                     |

Operating conditions, two tubes  
 Caractéristiques d'utilisation, deux tubes  
 Betriebsdaten, zwei Röhren

|             |   |             |             |    |
|-------------|---|-------------|-------------|----|
| $V_a$       | = | 3000        | 2500        | V  |
| $V_{g2}$    | = | 500         | 500         | V  |
| $V_{g1}$    | = | -94         | -91         | V  |
| $R_{aa}$    | = | 22          | 18          | kΩ |
| $V_{g1g1p}$ | = | 0 184       | 0 178       | V  |
| $I_a$       | = | 2x50 2x155  | 2x50 2x155  | mA |
| $I_{g2}$    | = | 0 2x10      | 0 2x10,5    | mA |
| $W_{g2}$    | = | 0 2x5       | 0 2x5,3     | W  |
| $W_{ia}$    | = | 2x150 2x465 | 2x125 2x387 | W  |
| $W_a$       | = | 2x150 2x147 | 2x125 2x132 | W  |
| $W_o$       | = | 0 635       | 0 510       | W  |
| $dtot$      | = | - 2,8       | - 2,6       | %  |
| $\eta$      | = | - 68        | - 66        | %  |
| $V_a$       | = | 2000        | 1500        | V  |
| $V_{g2}$    | = | 500         | 500         | V  |
| $V_{g1}$    | = | -88         | -85         | V  |
| $R_{aa}$    | = | 14,5        | 10          | kΩ |
| $V_{g1g1p}$ | = | 0 173       | 0 167       | V  |
| $I_a$       | = | 2x50 2x150  | 2x50 2x150  | mA |
| $I_{g2}$    | = | 0 2x14,5    | 0 2x15,5    | mA |
| $W_{g2}$    | = | 0 2x7,3     | 0 2x7,8     | W  |
| $W_{ia}$    | = | 2x100 2x300 | 2x75 2x225  | W  |
| $W_a$       | = | 2x100 2x105 | 2x75 2x91   | W  |
| $W_o$       | = | 0 390       | 0 268       | W  |
| $dtot$      | = | - 3,2       | - 3         | %  |
| $\eta$      | = | - 65        | - 60        | %  |

<sup>1)</sup> See page 6; voir page 6; siehe Seite 6

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Identification of the specimen  
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Date of collection  
Locality  
Collector  
Number of the specimen  
Number of the collection

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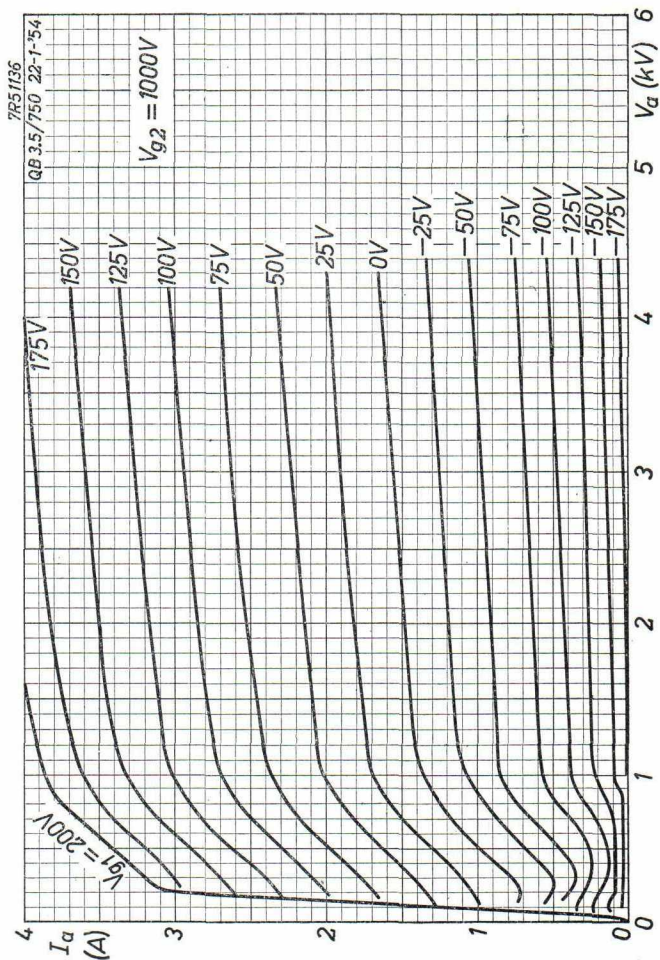
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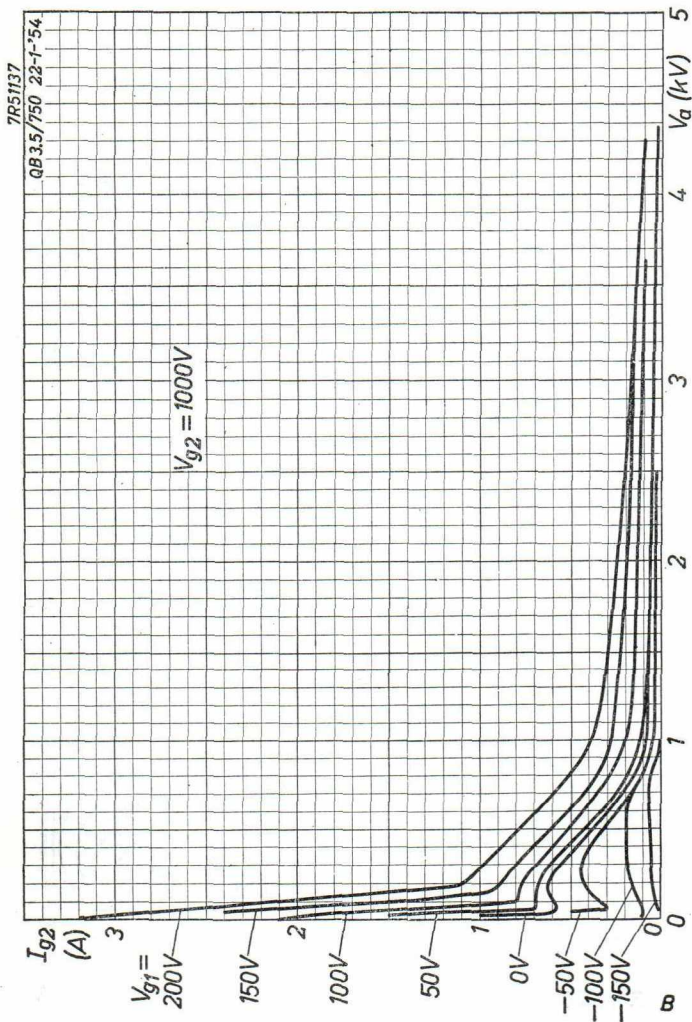


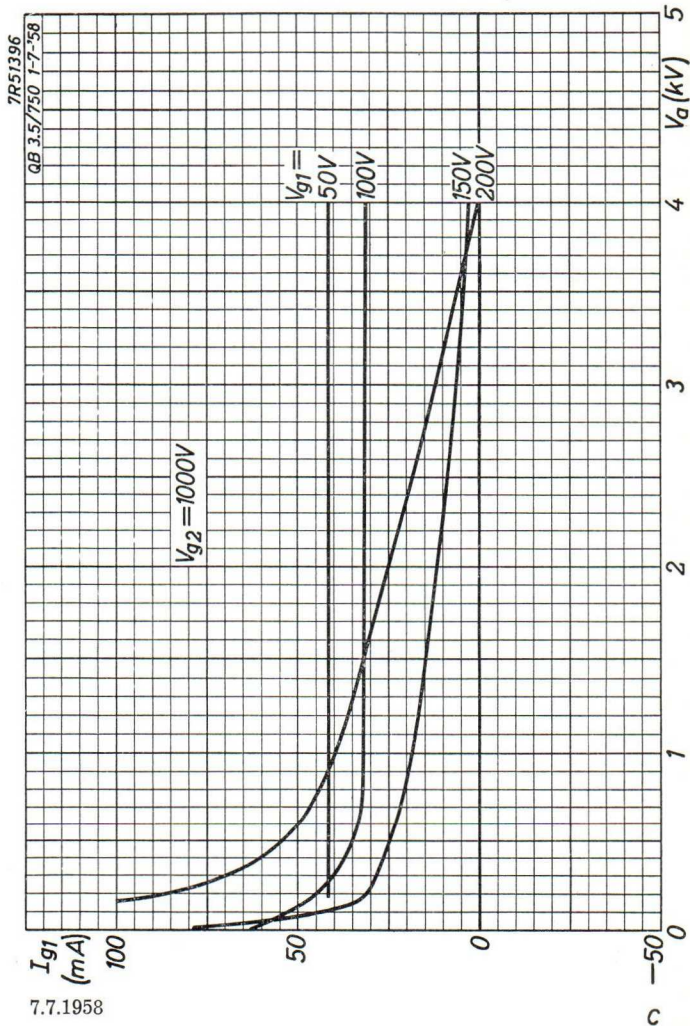
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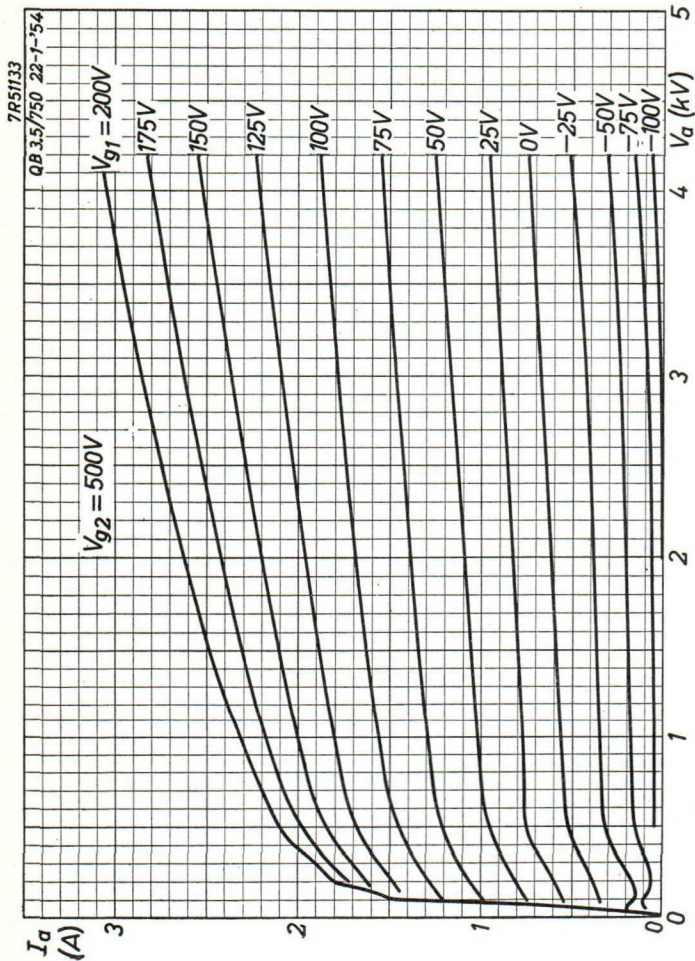
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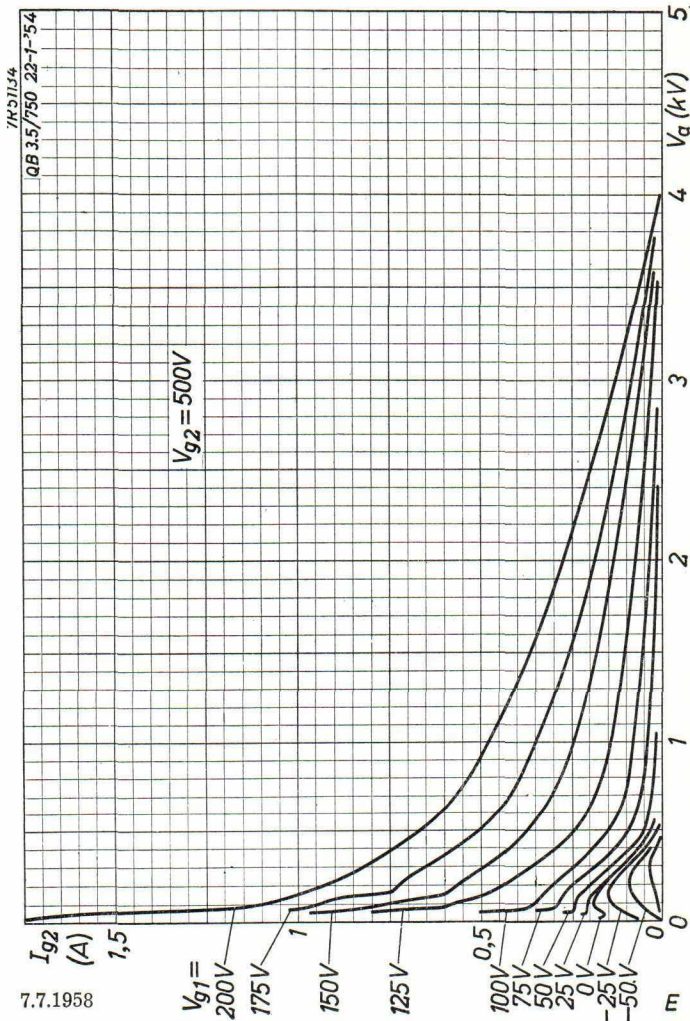
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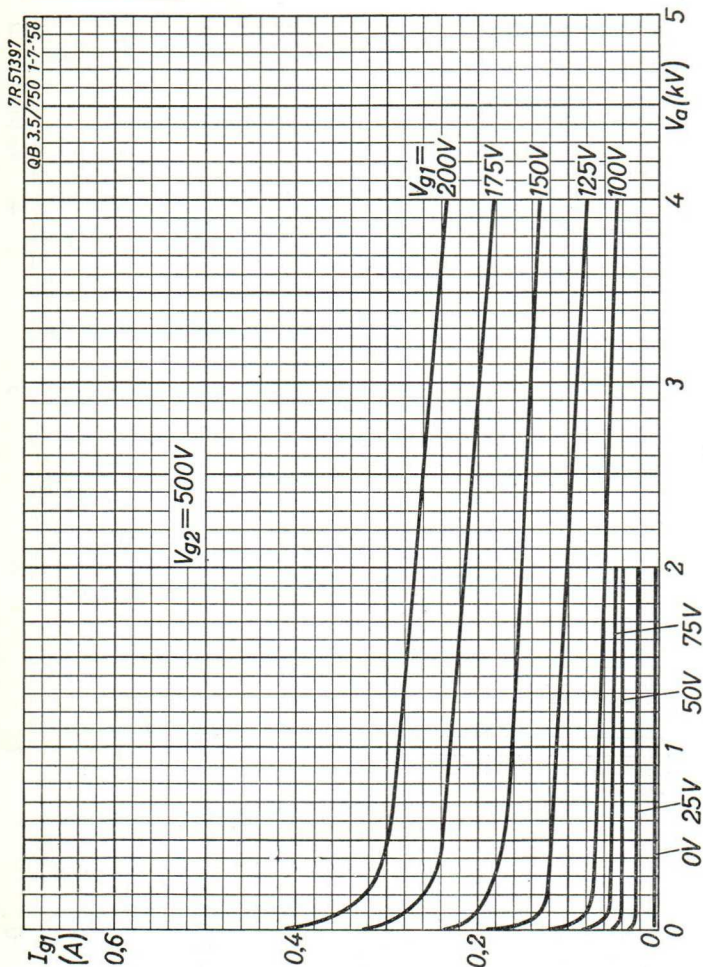
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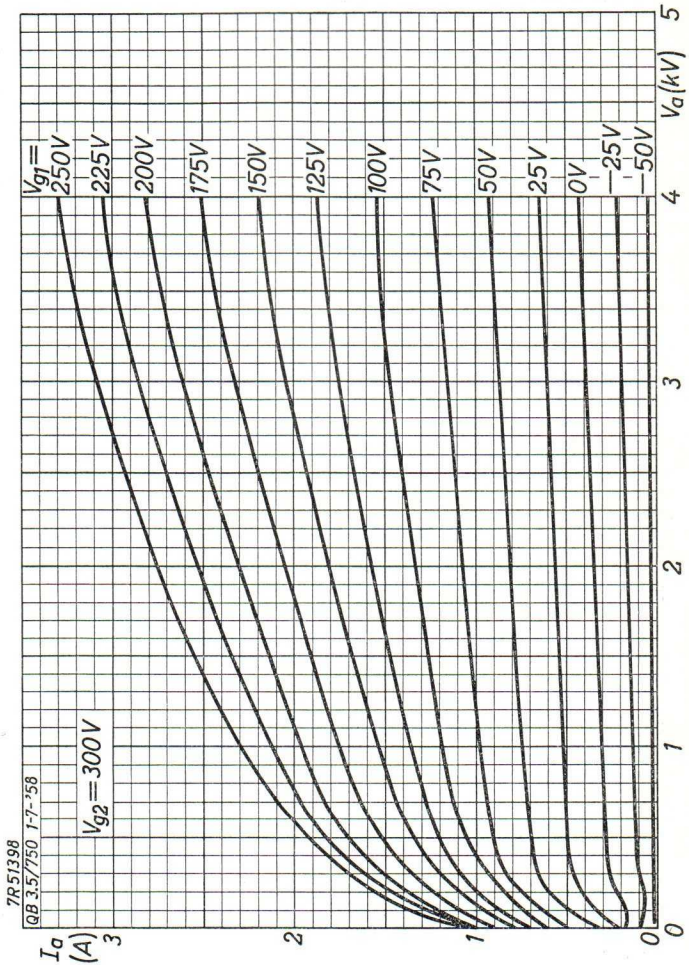
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QB 3.5/750

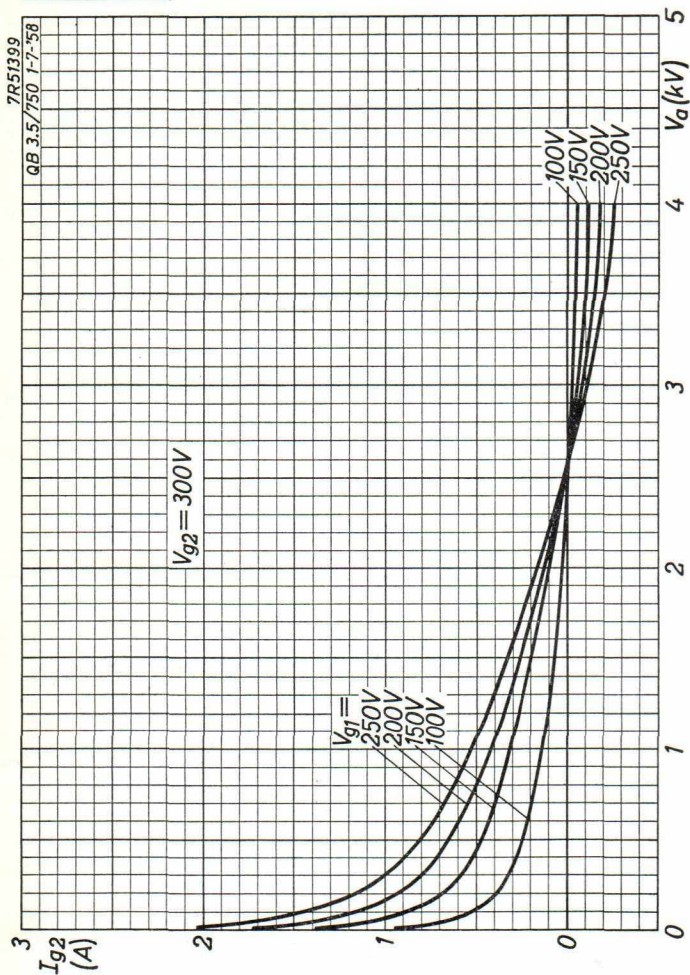
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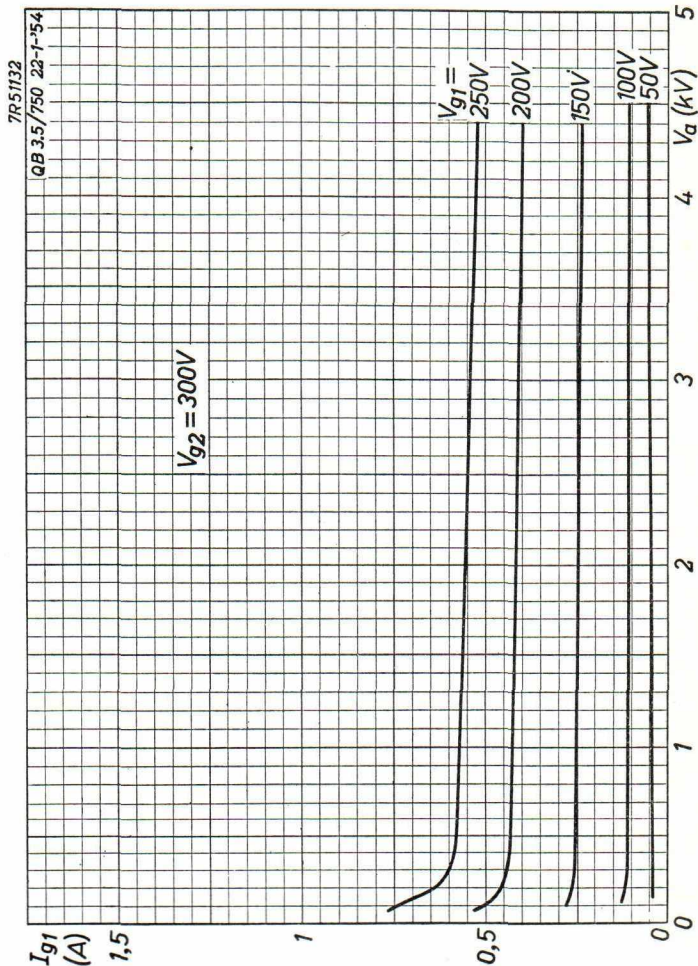


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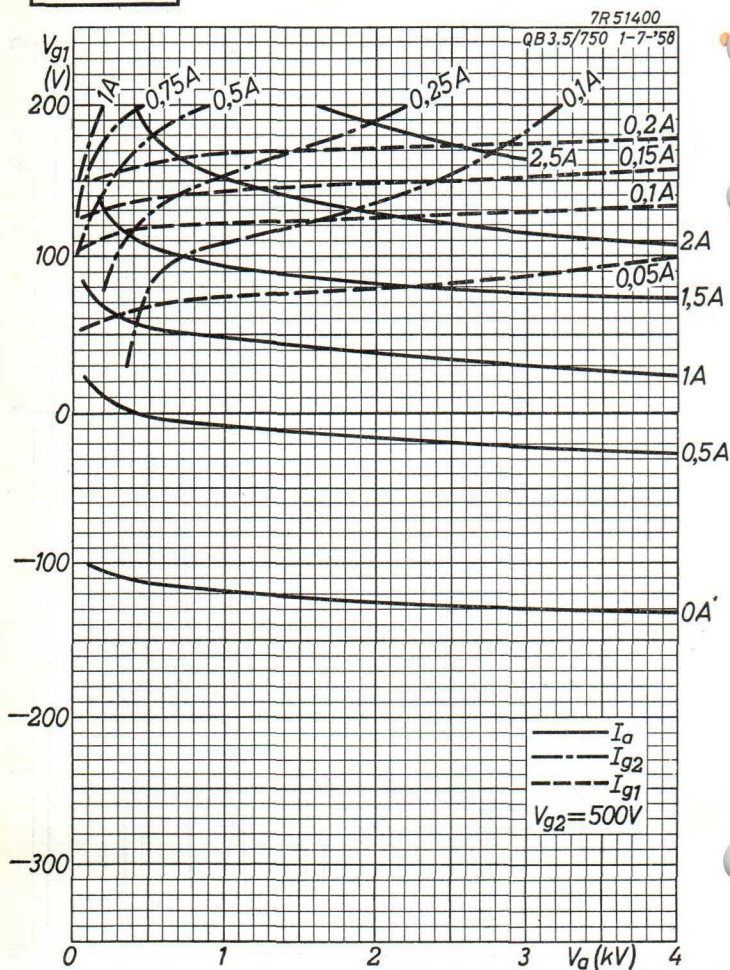


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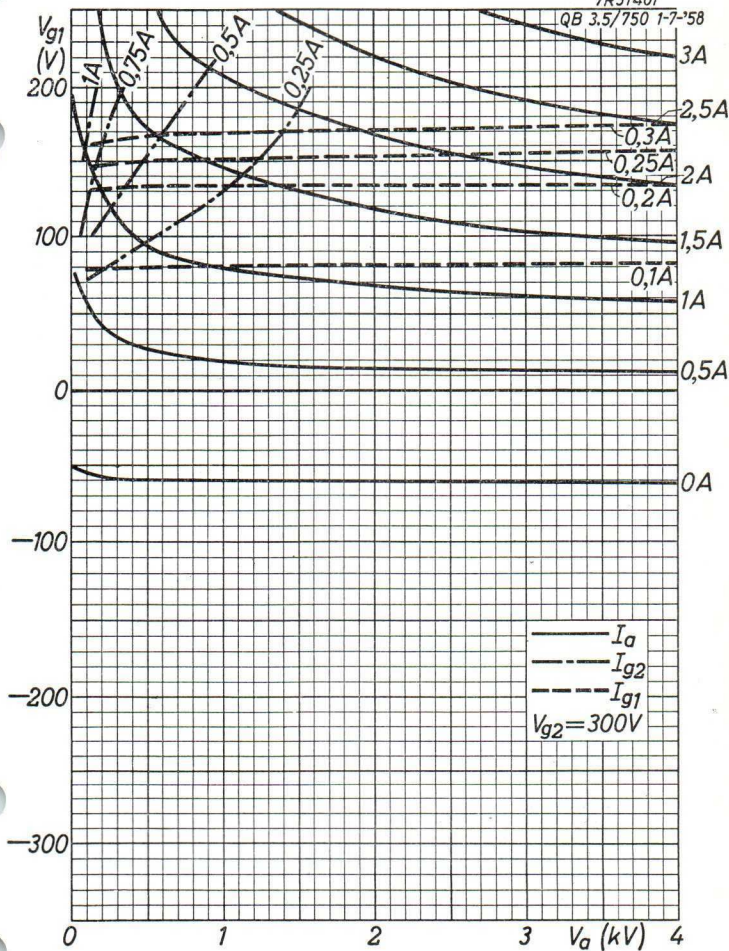


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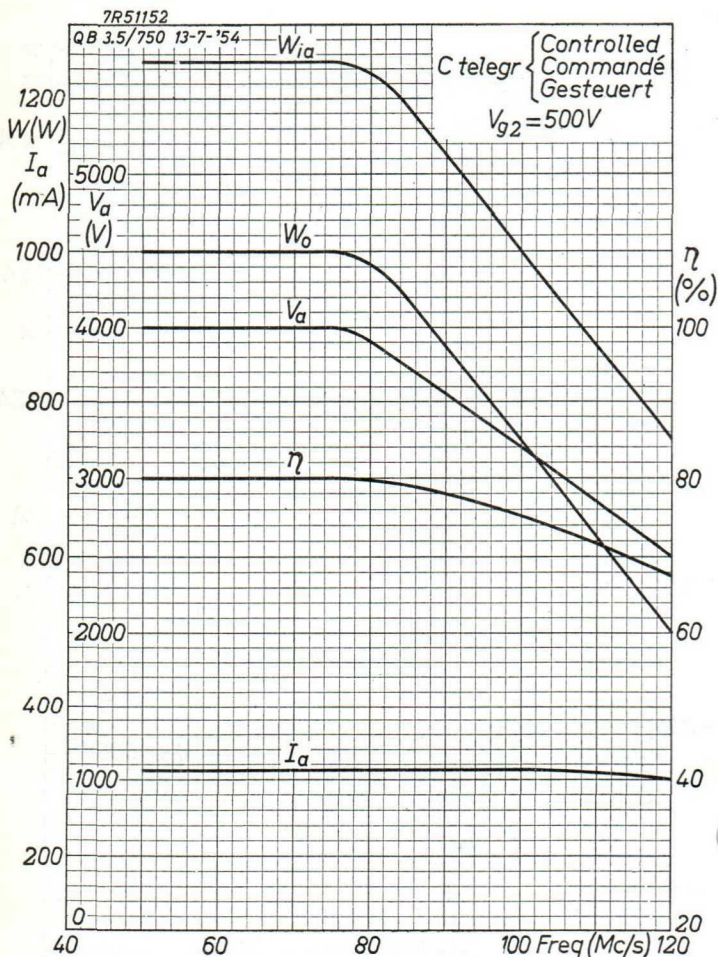


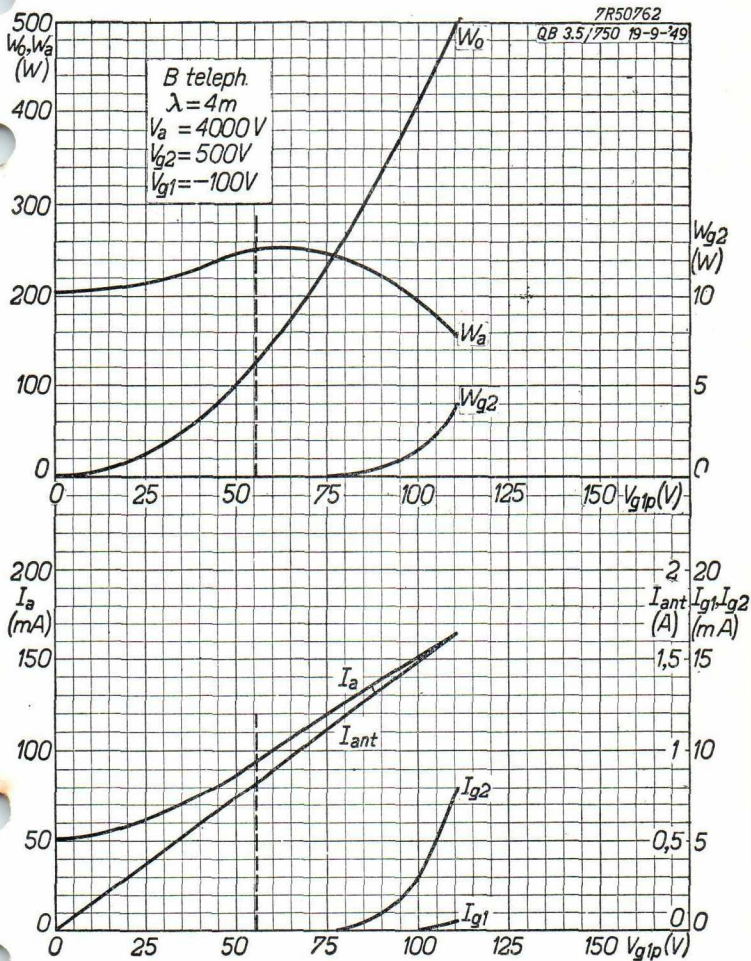
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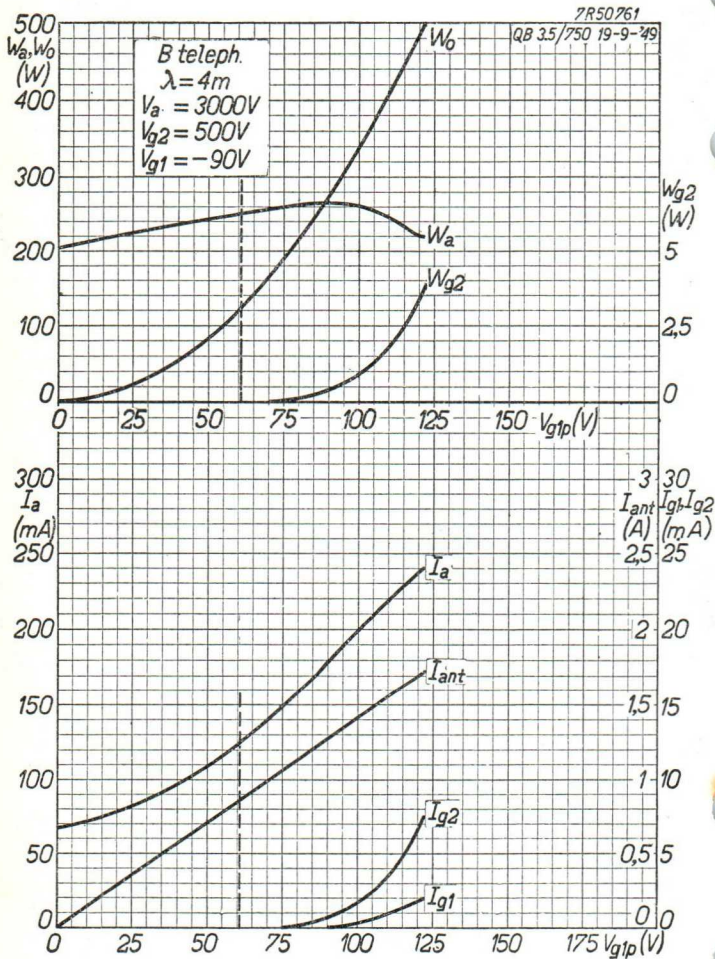
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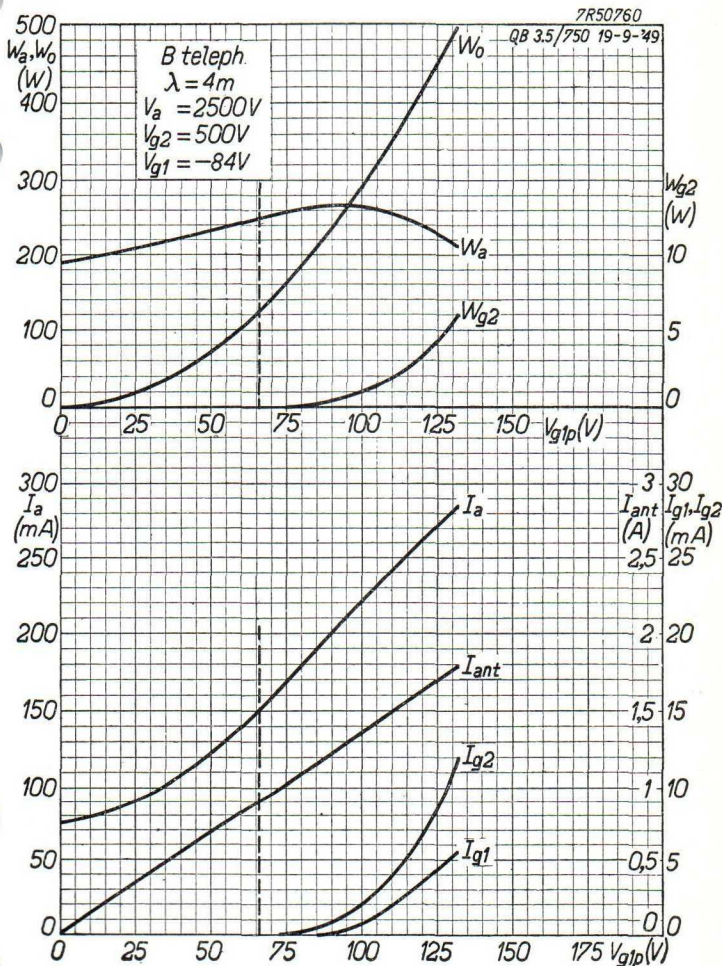
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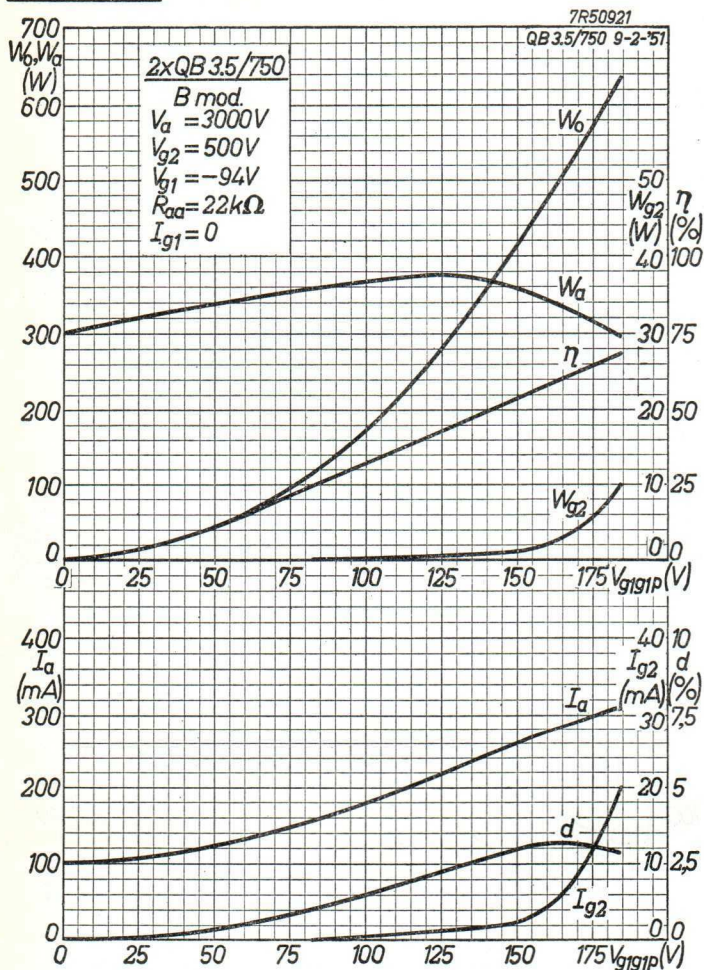






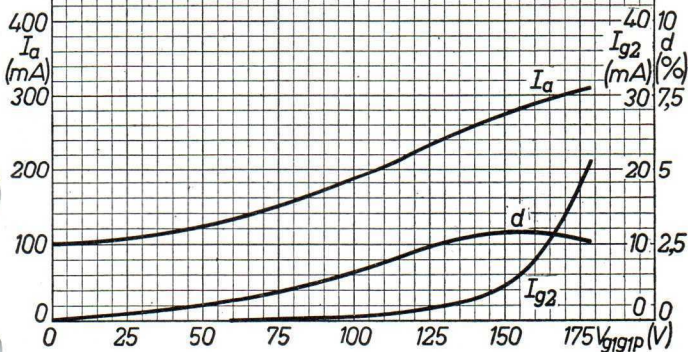
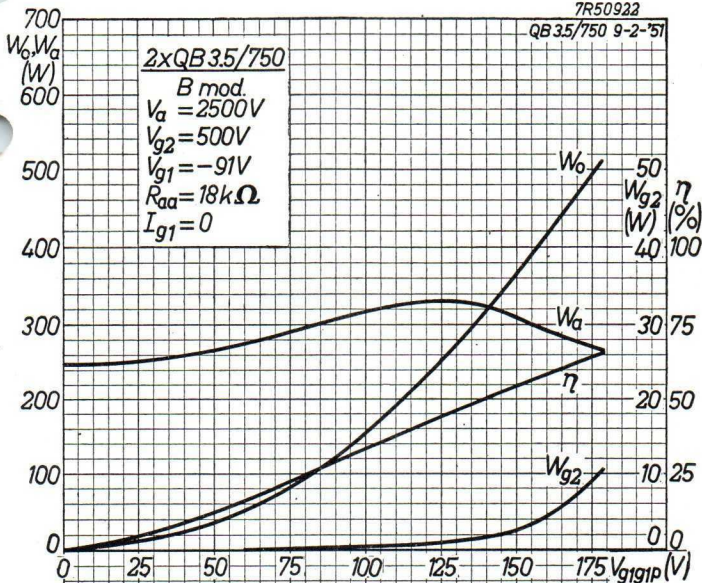
QB 3.5/750

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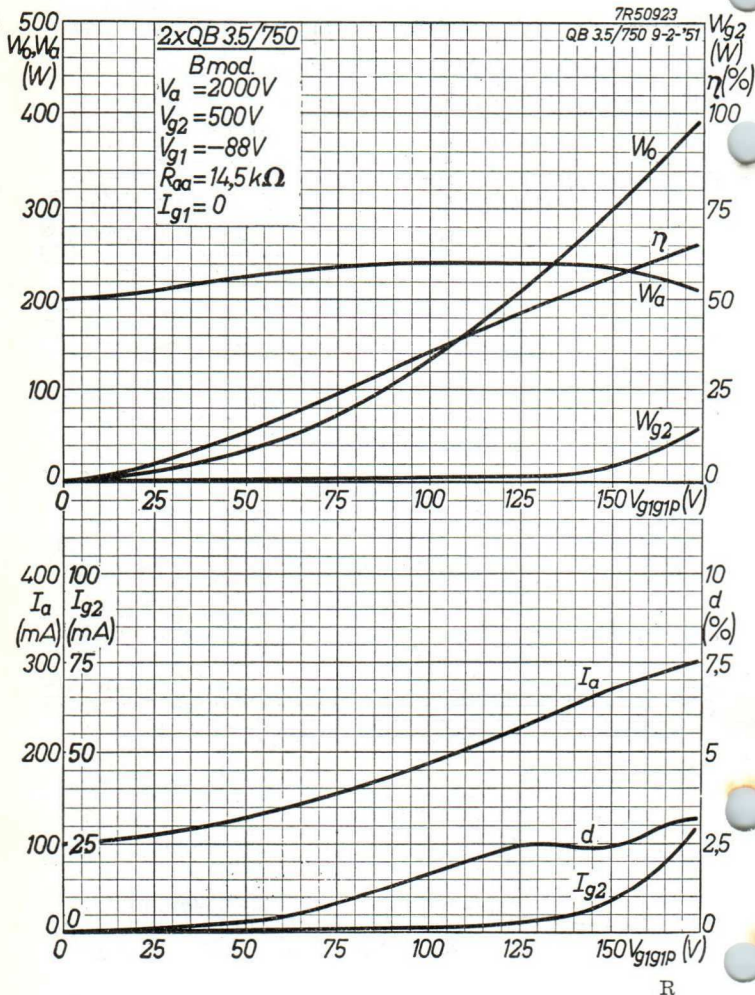
7R50922

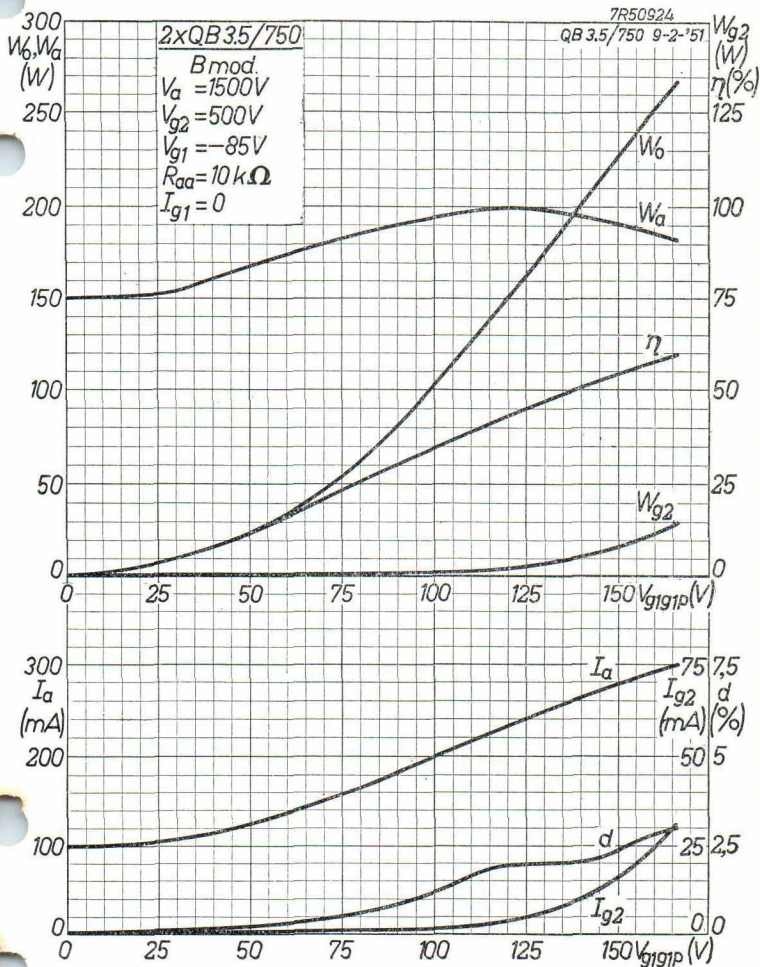
QB 3.5/750 9-2-51

2xQB 3.5/750
*B mod.*
 $V_a = 2500V$ 
 $V_{g2} = 500V$ 
 $V_{g1} = -91V$ 
 $R_{aa} = 18k\Omega$ 
 $I_{g1} = 0$ 


QB 3.5/750

PHILIPS





QB 3.5/750

PHILIPS

7R50925

QB 3.5/750 9-2-'51

2xQB 3.5/750

B mod.

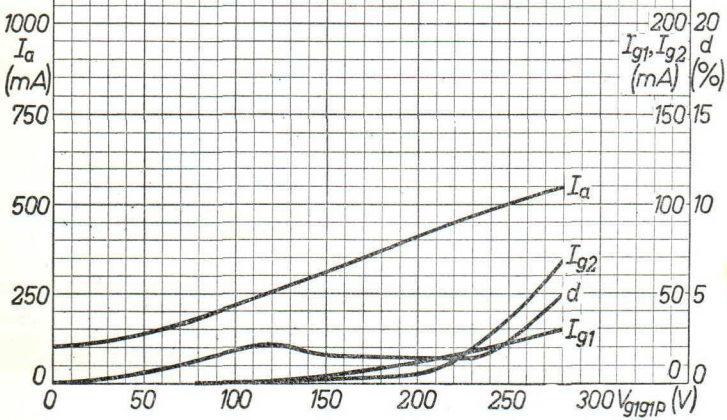
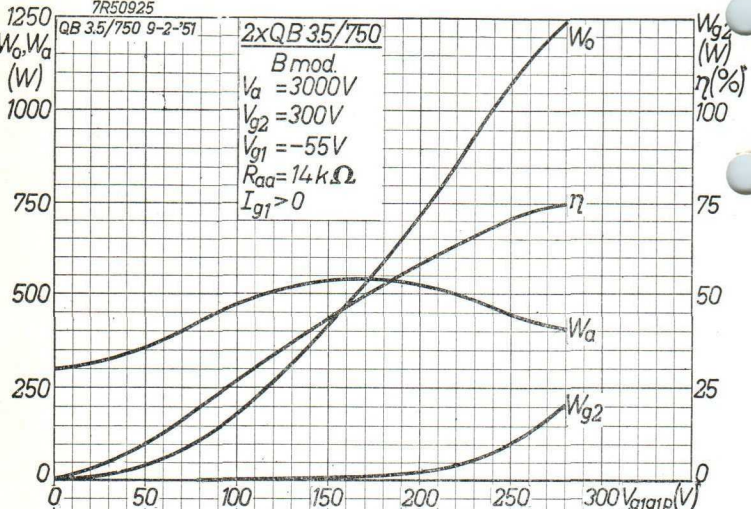
$V_a = 3000V$

$V_{g2} = 300V$

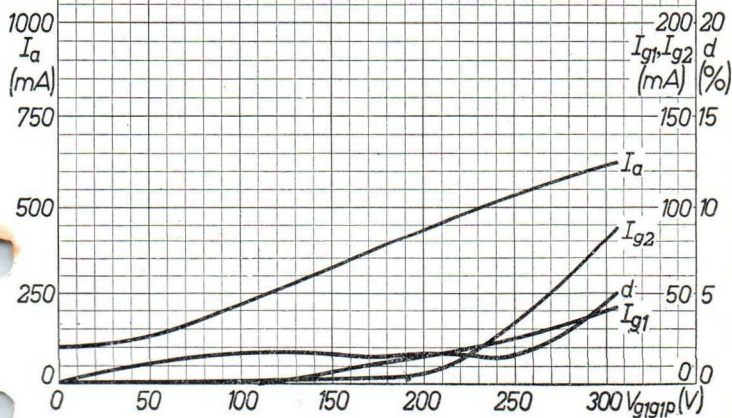
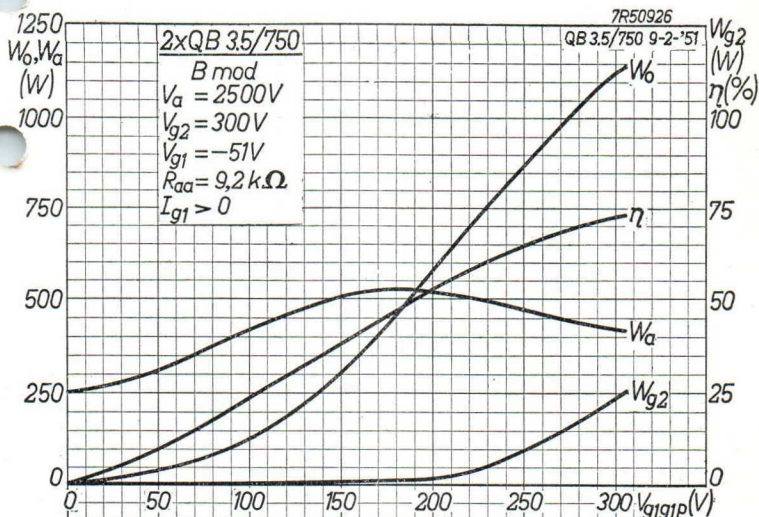
$V_{g1} = -55V$

$R_{aa} = 14 k\Omega$

$I_{g1} > 0$

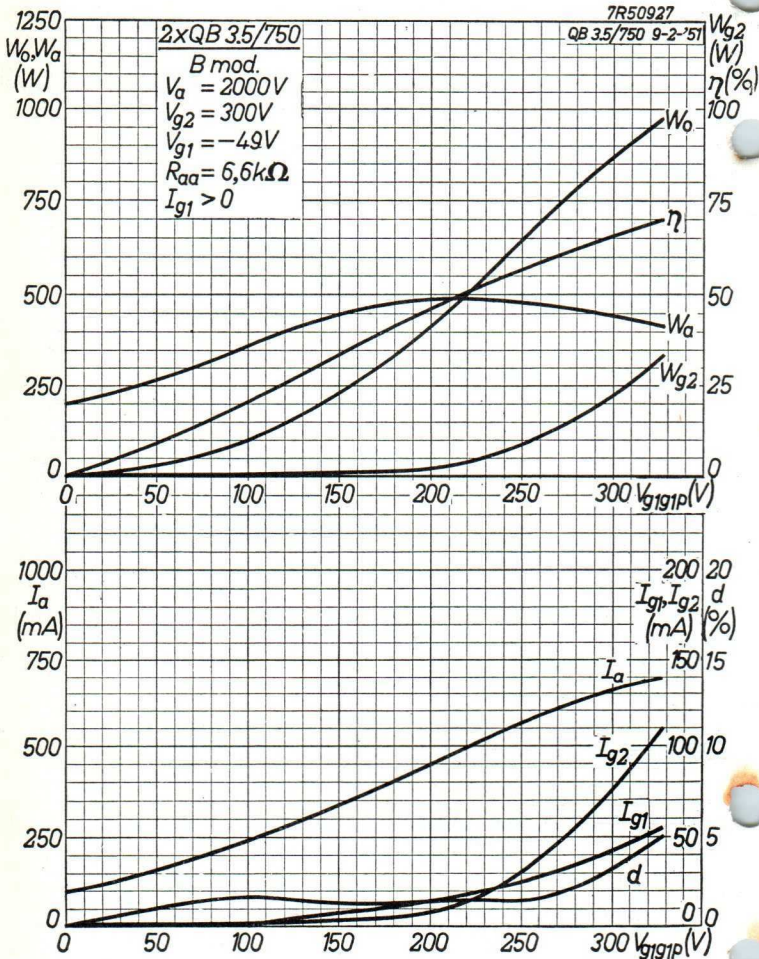


T



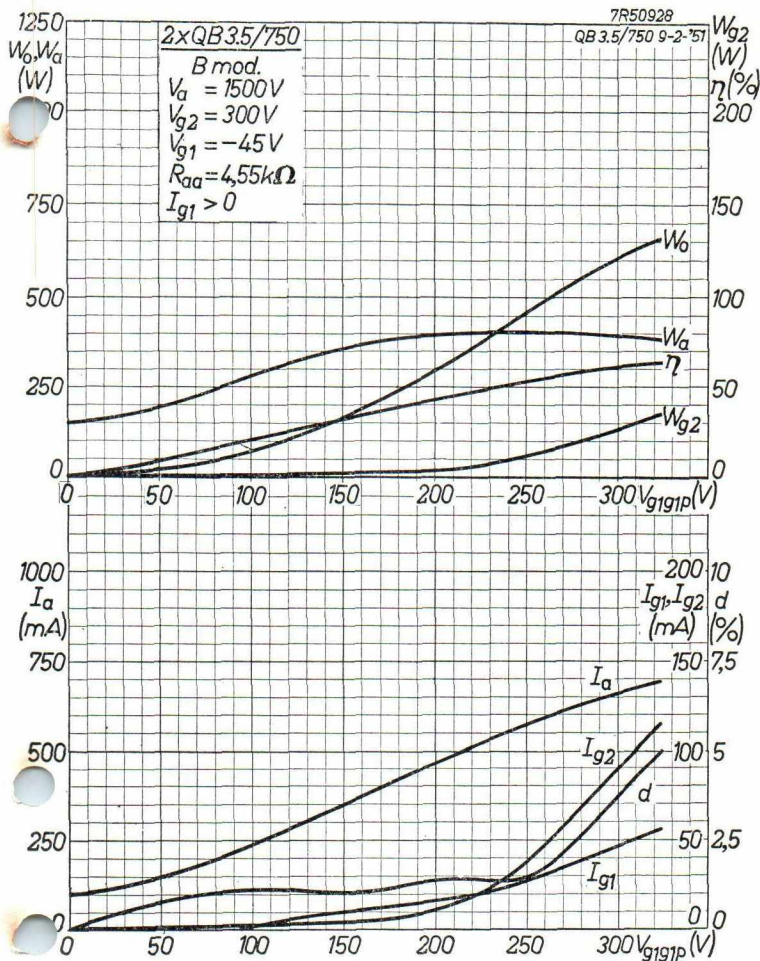
QB 3.5/750

PHILIPS



# PHILIPS

## QB 3.5/750



7.7.1954

W

1917-18

1917-18

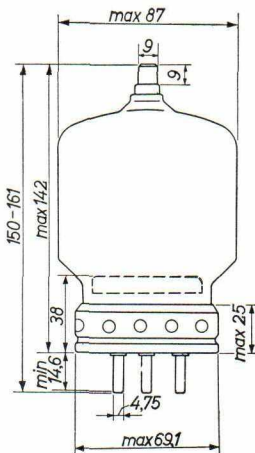
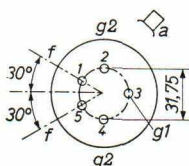
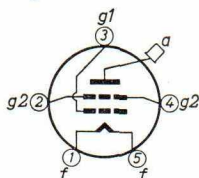


# PHILIPS

**QB 3.5/750 GA**

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

Dimensions in mm  
Dimensions en mm  
Abmessungen in mm



Base : Metal-shell Giant 5p.  
Culot : Giant 5p. avec culot métallique  
Sockel : Giant 5p. mit Metallring

Socket  
Support 40211/01  
Fassung

For further data and curves please refer to QB 3.5/750  
Pour les autres données et les courbes voir QB 3.5/750  
Für die übrigen Daten und Kurven siehe QB 3.5/750

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