

SPECIAL QUALITY TRIODE for use as grounded grid aerial amplifier for bands IV and V

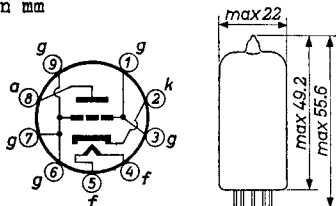
### HEATING

Indirect by A.C. or D.C.; parallel supply

Heater voltage  $V_f = 6.3 \text{ V}$

Heater current  $I_f = 155 \text{ mA}$

Dimensions in mm



Base: NOVAL

### CAPACITANCES

#### Without external screening

Anode to grid  $C_{ag} = 1.2 \text{ pF}$

With external screening, connected to the grid; inside diameter 22.2 mm

Anode to grid  $C_{ag} = 1.7 \text{ pF}$

Grid to heater and cathode  $C_{g(k+f)} = 3.8 \text{ pF}$

Anode to heater and cathode  $C_{a(k+f)} = 0.055 \text{ pF}$

### LIMITING VALUES (Absolute limits)

Anode voltage in cold condition  $V_{a0} = \text{max. } 400 \text{ V}$

Anode voltage  $V_a = \text{max. } 200 \text{ V}$

Anode dissipation  $W_a = \text{max. } 2.4 \text{ W}$

Cathode current  $I_k = \text{max. } 15 \text{ mA}$

Negative grid voltage  $-V_g = \text{max. } 50 \text{ V}$

External grid resistance (with cathode resistor of 100  $\Omega$ )  $R_g(R_k=100 \Omega) = \text{max. } 1 \text{ M}\Omega$

Voltage between heater and cathode (cathode positive)  $V_{kf}(k \text{ pos.}) = \text{max. } 125 \text{ V}$

Voltage between heater and cathode (cathode negative)  $V_{kf}(k \text{ neg.}) = \text{max. } 60 \text{ V}$

**TYPICAL CHARACTERISTICS**

|                             |                         |   |                |
|-----------------------------|-------------------------|---|----------------|
| Heater voltage              | $V_f$                   | = | 6.3 V          |
| Anode voltage               | $V_a$                   | = | 160 V          |
| Grid voltage                | $V_g$                   | = | -1.25 V        |
| Anode current               | $I_a$                   | = | 12.5 mA        |
| Mutual conductance          | $S$                     | = | 13.5 mA/V      |
| Amplification factor        | $\mu$                   | = | 65             |
| Internal resistance         | $R_i$                   | = | 4.8 k $\Omega$ |
| Equivalent noise resistance | $R_{eq}$                | = | 240 $\Omega$   |
| Noise figure at 850 Mc/s    | $F(f=850 \text{ Mc/s})$ | = | 10 dB          |

**Grid current starting point**

|                       |        |   |             |
|-----------------------|--------|---|-------------|
| Heater voltage        | $V_f$  | = | 6.3 V       |
| Anode voltage         | $V_a$  | = | 0 V         |
| Positive grid current | $+I_g$ | = | 0.3 $\mu$ A |
| Negative grid voltage | $-V_g$ | < | 1.3 V       |

**Series resonance frequencies**

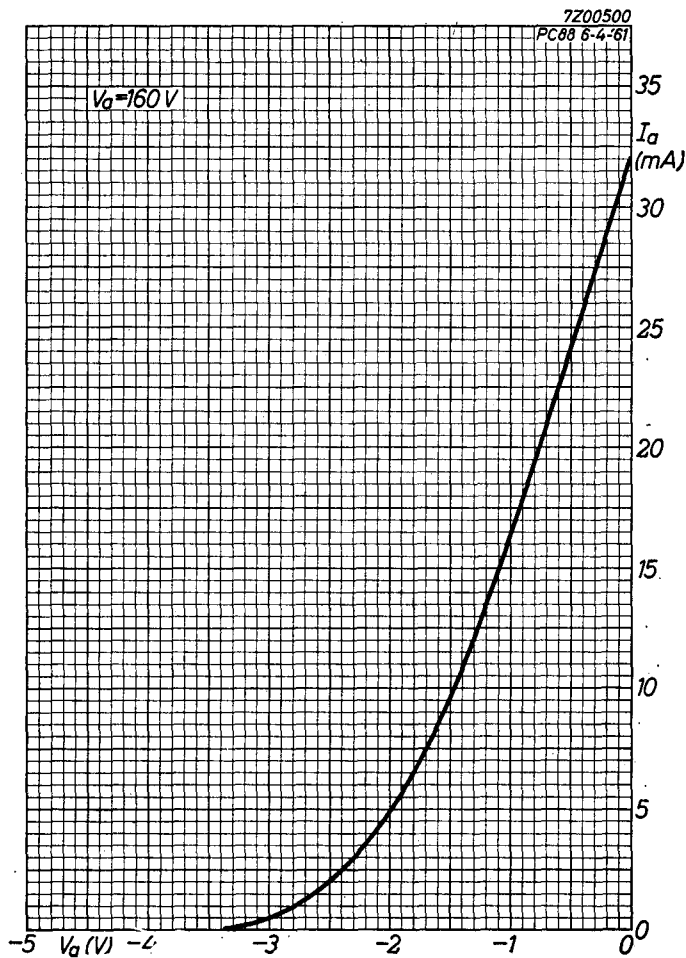
Measured between a point on the relevant tube pin close to the tube bottom and a point close to the relevant pin on a metal reference plane, placed against the tube bottom. All the pins, except the relevant one, are connected to the reference plane with a negligible impedance. The tube is screened by a metal cylinder with an inside diameter of 22.2 mm placed upon the metal reference plane.

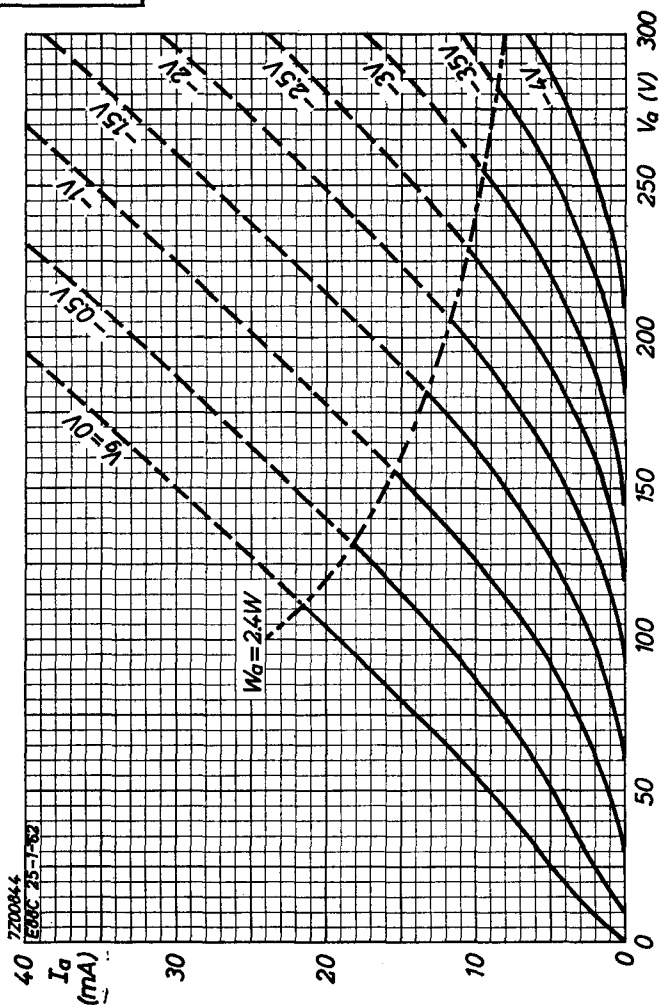
|                             |          |   |           |
|-----------------------------|----------|---|-----------|
| Heater voltage              | $V_f$    | = | 0 V       |
| Anode voltage               | $V_a$    | = | 0 V       |
| Anode resonance frequency   | $f_{oa}$ | = | 1700 Mc/s |
| Cathode resonance frequency | $f_{ok}$ | = | 1000 Mc/s |

**OPERATING CHARACTERISTICS**

|                      |          |   |                   |              |
|----------------------|----------|---|-------------------|--------------|
| Heater voltage       | $V_f$    | = | 6.3 <sup>1)</sup> | 6.3 V        |
| Anode supply voltage | $V_{ba}$ | = | 170 <sup>1)</sup> | 161 V        |
| Grid supply voltage  | $V_{bg}$ | = | +9 <sup>1)</sup>  | 0 V          |
| Cathode resistor     | $R_k$    | = | 820 <sup>1)</sup> | 100 $\Omega$ |
| Anode current        | $I_a$    | = | 12.5              | 12.5 mA      |

<sup>1)</sup> Recommended operating conditions

**SQ****PHILIPS****E88C**

**E88C****PHILIPS****SQ****B**



| page | E88C<br>sheet | date       |
|------|---------------|------------|
| 1    | 1             | 1962.07.07 |
| 2    | 2             | 1962.07.07 |
| 3    | A             | 1962.07.07 |
| 4    | B             | 1962.07.07 |
| 5    | FP            | 1999.06.11 |