

# PHILIPS ELECTRON DEVICES LTD

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# PHILIPS

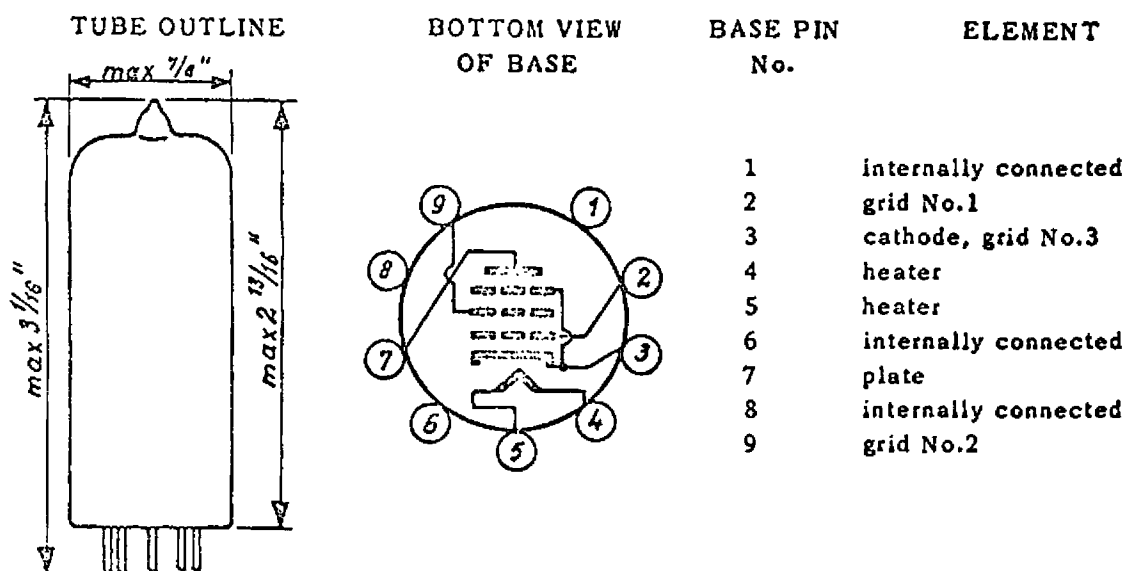
6CW5  
8CW5  
15CW5  
30 CW 5

## DESCRIPTION

AF output pentode or frame output pentode.

## MECHANICAL DATA

|                   |                     |
|-------------------|---------------------|
| Cathode           | coated unipotential |
| Bulb              | T 6½                |
| Base              | E 9-1               |
| Basing            | 9 CV                |
| Mounting position | Any                 |



## ELECTRICAL DATA

| Heating        | 6CW5     | 8CW5  | 15CW5    | 30CW5      |
|----------------|----------|-------|----------|------------|
| heater voltage | 6.3      | 8±10% | 15±10% V | 30 ± 10% V |
| heater current | 0.76±10% | 0.6   | 0.3 A    | 0.15 A     |

## LIMITING VALUES (design max.)

for use as AF amplifier class  $A_1$ - $AB_1$  or single ended push-pull

|                                     |      |        |
|-------------------------------------|------|--------|
| Plate voltage                       | max. | 275 V  |
| Plate voltage without plate current | max. | 600 V  |
| Plate dissipation                   | max. | 14 W   |
| Grid No.2 voltage                   | max. | 220 V  |
| Grid No.2 voltage without current   | max. | 600 V  |
| Grid No.2 dissipation               | max. | 2.1 W  |
| Grid No.2 peak dissipation          | max. | 7 W    |
| Cathode current                     | max. | 110 mA |

JANUARY 1963

data from JEDEC release #2556E, June 15, 1964  
curves from JEDEC release #2556, Aug. 3, 1959

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30 CW 5

# LIMITING VALUES (continued)

*for use as vertical deflection amplifier, for operation in a 525-line, 30-frame system*

|                                       |      |                      |
|---------------------------------------|------|----------------------|
| Plate voltage                         | max. | 275 V                |
| Peak positive-pulse plate voltage     | max. | 2200 V <sup>1)</sup> |
| Grid No.2 voltage                     | max. | 275 V                |
| Peak negative-pulse Grid No.1 voltage | max. | 250 V                |
| Cathode current                       |      |                      |
| peak                                  | max. | 240 mA               |
| average                               | max. | 110 mA               |
| Grid No.2 input                       | max. | 2.1 W                |
| Plate dissipation                     | max. | 12 W                 |

## *Voltage between cathode and heater*

|                            |      |       |
|----------------------------|------|-------|
| Cathode positive to heater |      |       |
| peak                       | max. | 330 V |
| D.C.                       | max. | 220 V |
| Cathode negative to heater |      |       |
| peak                       | max. | 330 V |
| D.C.                       | max. | 220 V |

## *Maximum circuit values*

|                                               |      |          |
|-----------------------------------------------|------|----------|
| Grid No.1 circuit resistance                  |      |          |
| as AF amplifier                               | max. | 1 MΩ     |
| as deflection amplifier                       | max. | 2.2 MΩ   |
| Circuit resistance between heater and cathode | max. | 20 000 Ω |

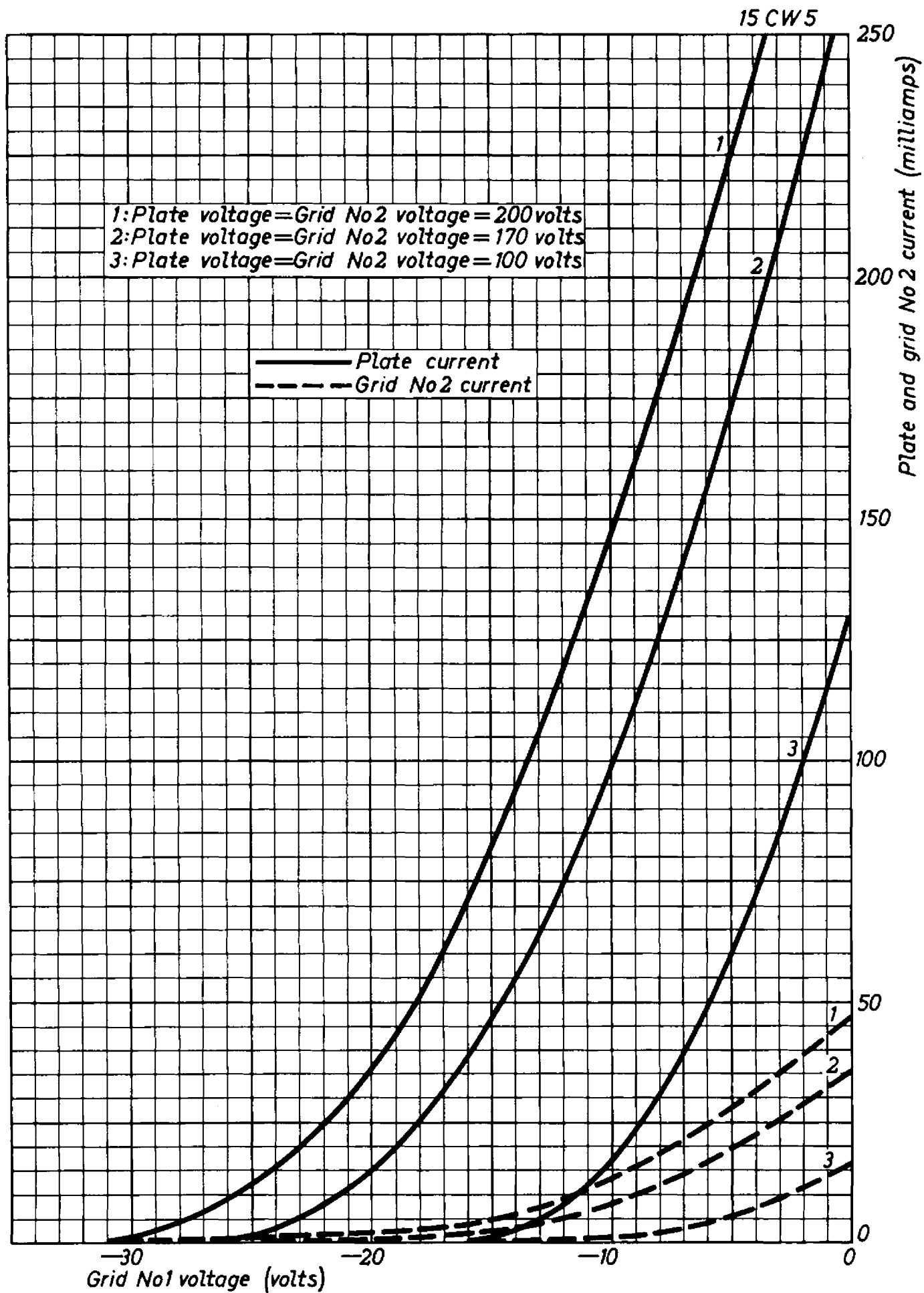
## TYPICAL CHARACTERISTICS

|                                                             |           |
|-------------------------------------------------------------|-----------|
| Plate voltage                                               | 170 V     |
| Grid No.2 voltage                                           | 170 V     |
| Grid No.1 voltage                                           | -12.5 V   |
| Plate current                                               | 70 mA     |
| Grid No.2 current                                           | 3.5 mA    |
| Transconductance                                            | 11 000 μU |
| Amplification factor of grid No.2 with respect to grid No.1 | 8         |
| Plate resistance                                            | 26 000 Ω  |

## *Direct interelectrode capacitances*

|                                              |               |
|----------------------------------------------|---------------|
| Grid No.1 to all other elements except plate | 13 μμF        |
| Plate to all other elements except grid No.1 | 6.8 μμF       |
| Plate to grid No.1                           | max. 0.6 μμF  |
| Grid No.1 to heater                          | max. 0.25 μμF |

<sup>1)</sup> Max. pulse duration 6% of a cycle with a max. of 1.2 msec.



15CW5

Grid No1 voltage =

0 volt

Grid No2 voltage = 200 volts

Plate dissipation =  
12 watts

Plate current (milliamps)

500

400

300

200

100

0

Plate voltage (volts)

-2.5

-5

-7.5

-10

-12.5

-15

-17.5

-20

-22.5

-25

B

