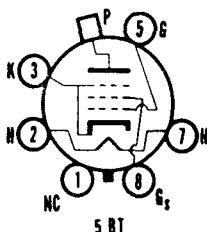




# SYLVANIA TYPE 6DN6 25DN6

BEAM POWER AMPLIFIER



## MECHANICAL DATA

|                        |                                         |
|------------------------|-----------------------------------------|
| Bulb.....              | T-12                                    |
| Base.....              | B8-118, Short Medium Shell Octal, 8-Pin |
| Outline.....           | 12-21                                   |
| Basing.....            | 5BT                                     |
| Top Cap.....           | C1-1 Small                              |
| Cathode.....           | Coated Unipotential                     |
| Mounting Position..... | Vertical <sup>1</sup>                   |

## ELECTRICAL DATA

### HEATER CHARACTERISTICS

|                                               | 6DN6 | 25DN6 |            |
|-----------------------------------------------|------|-------|------------|
| Heater Voltage.....                           | 6.3  | 25.0  | Volts      |
| Heater Current.....                           | 2.5  | 0.60  | Amperes    |
| Heater Warm-up Time (See Appendix).....       |      | 11    | Seconds    |
| Heater-Cathode Voltage (Design Center Values) |      |       |            |
| Heater Negative with Respect to Cathode       |      |       |            |
| Total D C and Peak.....                       | 200  | 200   | Volts Max. |
| Heater Positive with Respect to Cathode       |      |       |            |
| D C.....                                      | 100  | 100   | Volts Max. |
| Total D C and Peak.....                       | 200  | 200   | Volts Max. |

### DIRECT INTERELECTRODE CAPACITANCES (Approx.)

|                          |                       |
|--------------------------|-----------------------|
| Grid No. 1 to Plate..... | 0.8 $\mu\mu\text{f}$  |
| Input.....               | 22 $\mu\mu\text{f}$   |
| Output.....              | 11.5 $\mu\mu\text{f}$ |

### RATINGS (Design Center Values—Except as Noted)

#### Horizontal Deflection Amplifier<sup>2</sup>

|                                                    |      |             |
|----------------------------------------------------|------|-------------|
| D C Plate Supply Voltage                           |      |             |
| (Boost + D C Power Supply).....                    | 700  | Volts Max.  |
| Peak Positive Pulse Plate Voltage (Abs. Max.)..... | 6600 | Volts       |
| Peak Negative Pulse Plate Voltage.....             | 1500 | Volts Max.  |
| Plate Dissipation <sup>3</sup> .....               | 15   | Watts Max.  |
| Peak Negative Grid No. 1 Voltage.....              | 200  | Volts Max.  |
| D C Grid No. 2 Voltage.....                        | 175  | Volts Max.  |
| Grid No. 2 Dissipation.....                        | 3.0  | Watts Max.  |
| Average Cathode Current.....                       | 200  | Ma Max.     |
| Peak Cathode Current.....                          | 700  | Ma Max.     |
| Grid No. 1 Circuit Resistance.....                 | 0.47 | Megohm Max. |
| Bulb Temperature (At Hottest Point).....           | 225° | C Max       |

### AVERAGE CHARACTERISTICS

#### Pentode Operation:

|                                                           |                       |
|-----------------------------------------------------------|-----------------------|
| With $E_b = 125$ V, $E_{c2} = 125$ V and $E_{c1} = -18$ V |                       |
| Plate Current.....                                        | 70 Ma                 |
| Grid No. 2 Current.....                                   | 6.3 Ma                |
| Transconductance.....                                     | 9000 $\mu\text{mhos}$ |
| Plate Resistance (approx.).....                           | 4000 Ohms             |

#### Zero Bias:

|                                                                               |        |
|-------------------------------------------------------------------------------|--------|
| With $E_b = 50$ V, $E_{c2} = 100$ V and $E_{c1} = 0$ V (Instantaneous Values) |        |
| Plate Current.....                                                            | 240 Ma |
| Grid No. 2 Current.....                                                       | 30 Ma  |

#### Cutoff:

|                                                            |           |
|------------------------------------------------------------|-----------|
| For $I_b = 0.5$ Ma with $E_b = 125$ V and $E_{c2} = 125$ V |           |
| Grid No. 1 Voltage (approx.).....                          | -36 Volts |

#### Triode Amplification Factor:

|                                                       |      |
|-------------------------------------------------------|------|
| With $E_b = E_{c2} = 125$ V and $E_{c3} = -18$ V..... | 4.35 |
|-------------------------------------------------------|------|

### NOTES:

- Horizontal operation permitted if plane of Pins 1 and 3 is vertical.
- For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations; Federal Communications Commission." The duty cycle of the voltage pulse must not exceed 15% of one scanning cycle.
- In stages operating with grid leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.

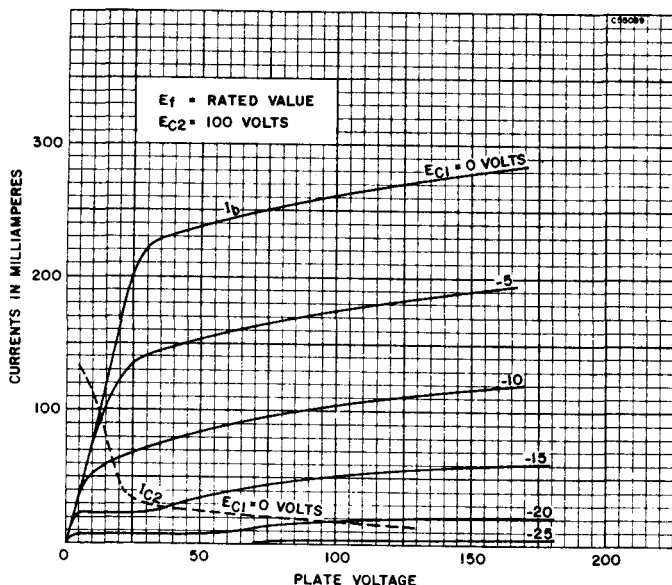
# 6DN6, 25DN6 (Cont'd)

## APPLICATION

The Sylvania Types 6DN6 and 25DN6 are beam power amplifiers designed for use as horizontal deflection amplifiers in television receivers having low B supply voltages. These types exhibit extremely low plate knee characteristics at zero bias.

The 25DN6 features a 25.0 volt, 600 Ma heater and controlled heater warm-up time for series string operation. Except for heater characteristics, the 25DN6 is identical to the 6DN6.

## AVERAGE PLATE CHARACTERISTICS



## AVERAGE PLATE CHARACTERISTICS

