

## V.H.F. AMPLIFIER TRIODE TYPES 2BN4-A, 3BN4-A AND 6BN4-A

The 2BN4-A, 3BN4-A and 6BN4-A are 7-Pin miniature-medium-mu triodes designed for service as grounded-grid r-f amplifiers in V.H.F. television receiver tuners. They are characterized by high transconductance and high transconductance per milliampere of plate current.

The 2BN4-A and 3BN4-A have been designed for use in receivers which employ series connected heaters especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

### ELECTRICAL:

| Direct Interelectrode Capacitances:          |           | Shielded <sup>⊕</sup> | Unshielded |         |
|----------------------------------------------|-----------|-----------------------|------------|---------|
| Grid to Plate.....                           | 1.2       | 1.1                   |            | μμf     |
| Input.....                                   | 3.2       | 2.9                   |            | μμf     |
| Output.....                                  | 1.4       | 0.7                   |            | μμf     |
| Heater Characteristics: 2BN4-A 3BN4-A 6BN4-A |           |                       |            |         |
| Voltage.....                                 | 2.35      | 3.0                   | 6.3 ± 10%  | Volts   |
| Current.....                                 | 0.60 ± 6% | 0.45 ± 6%             | 0.20       | Ampere  |
| Warm-up Time <sup>•</sup> ....               | 11        | 11                    | --         | Seconds |

### MECHANICAL:

|                        |                              |
|------------------------|------------------------------|
| Bulb.....              | T-5-1/2                      |
| Base.....              | Miniature 7-Pin (JEDEC E7-1) |
| Outline.....           | 5-2                          |
| Basing.....            | 7EG                          |
| Mounting Position..... | Any                          |
| Cathode.....           | Coated Unipotential          |

### MAXIMUM RATINGS:

#### Design Center Values

|                                                     |     |      |        |
|-----------------------------------------------------|-----|------|--------|
| Plate Voltage.....                                  | 275 | max. | Volts  |
| Positive Grid 1 Voltage.....                        | 0   | max. | Volts  |
| Plate Dissipation.....                              | 2.2 | max. | Watts  |
| Cathode Current.....                                | 22  | max. | Ma.    |
| Grid Circuit Resistance.....                        | 0.5 | max. | Megohm |
| Heater-Cathode Voltage:                             |     |      |        |
| Heater Negative or positive with Respect to Cathode |     |      |        |
| Total DC and Peak.....                              | 100 | max. | Volts  |

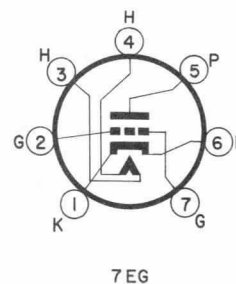
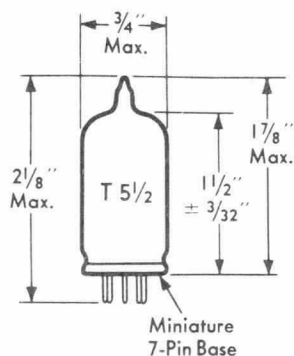
### TYPICAL OPERATING CHARACTERISTICS:

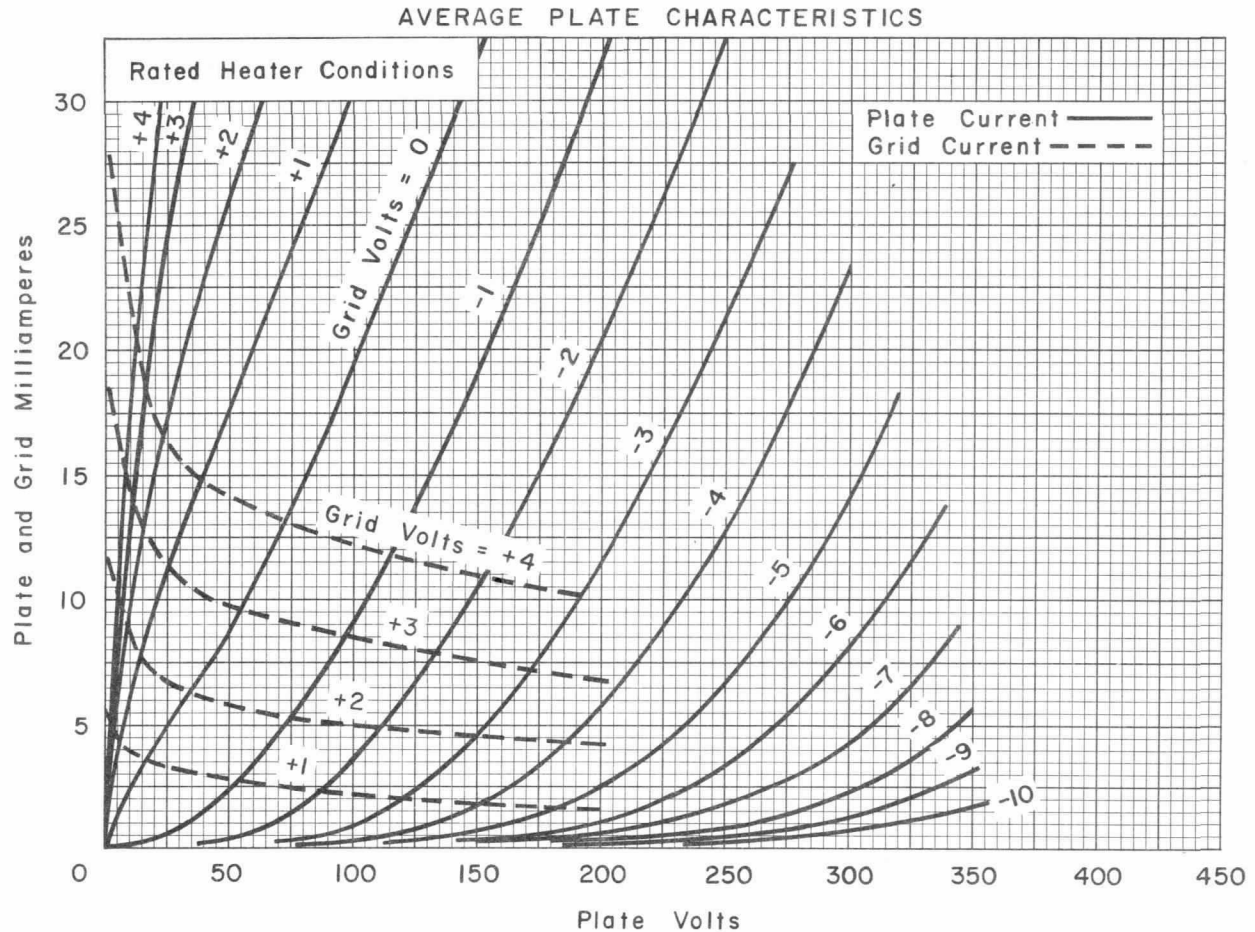
|                            |      |       |
|----------------------------|------|-------|
| Plate Voltage.....         | 150  | Volts |
| Cathode Bias Resistor..... | 220  | Ohms  |
| Plate Resistance.....      | 5400 | Ohms  |
| Transconductance.....      | 7700 | μmhos |
| Amplification Factor.....  | 43   |       |
| Grid Cutoff Bias★.....     | -6.0 | Volts |
| Plate Current.....         | 9.0  | Ma.   |

⊕ With JEDEC Shield No. 316 connected to Pin 6.

• Heater Warm-up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.

★ For plate current of 100 microamperes.





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