



6AQ5-A

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BEAM POWER TUBE

7-PIN MINIATURE TYPE

With heater having controlled warm-up time

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

| | | | |
|---------------------------------|------|-----------|----------------|
| Voltage | 6.3 | | ac or dc volts |
| Current | 0.45 | | amp |
| Warm-up time (Average). | 11 | | sec |

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

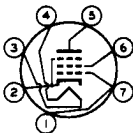
Direct Interelectrode Capacitances (Approx.):^o

| | | |
|--|-----|------------------|
| Grid No.1 to plate. | 0.4 | $\mu\mu\text{f}$ |
| Grid No.1 to cathode & grid No.3, grid No.2, and heater. | 8 | $\mu\mu\text{f}$ |
| Plate to cathode & grid No.3, grid No.2, and heater. | 8.5 | $\mu\mu\text{f}$ |

Mechanical:

| | |
|--|--|
| Operating Position. | Any |
| Maximum Overall Length. | 2-5/8" |
| Maximum Seated Length | 2-3/8" |
| Length, Base Seat to Bulb Top (Excluding tip). | 2" \pm 3/32" |
| Diameter. | 0.650" to 0.750" |
| Dimensional Outline | See General Section |
| Bulb. | T5-1/2 |
| Base. | Small-Button Miniature 7-Pin (JETEC No.E7-1) |
| Basing Designation for BOTTOM VIEW. | 7BZ |

Pin 1 - Grid No.1
 Pin 2 - Cathode,
 Grid No.3
 Pin 3 - Heater



Pin 4 - Heater
 Pin 5 - Plate
 Pin 6 - Grid No.2
 Pin 7 - Grid No.1

AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

| | | | |
|--|------------------|------|----------------|
| PLATE VOLTAGE | 250 | max. | volts |
| GRID-No.2 (SCREEN-GRID) VOLTAGE | 250 | max. | volts |
| GRID-No.2 INPUT | 2 | max. | watts |
| PLATE DISSIPATION | 12 | max. | watts |
| PEAK HEATER-CATHODE VOLTAGE: | | | |
| Heater negative with respect to cathode. | 200 | max. | volts |
| Heater positive with respect to cathode. | 200 [▲] | max. | volts |
| BULB TEMPERATURE (At hottest point on bulb surface). | 250 | max. | ^o C |

^o, [▲]: See next page.

← Indicates a change.

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Typical Operation and Characteristics:

| | | | |
|---|-------|-------|------------|
| Plate Voltage | 180 | 250 | volts |
| Grid-No.2 Voltage | 180 | 250 | volts |
| Grid-No.1 (Control-Grid) Voltage. . . | -8.5 | -12.5 | volts |
| Peak AF Grid-No.1 Voltage | 8.5 | 12.5 | volts |
| Zero-Signal Plate Current | 29 | 45 | ma |
| Max.-Signal Plate Current | 30 | 47 | ma |
| Zero-Signal Grid-No.2 Current | 3 | 4.5 | ma |
| Max.-Signal Grid-No.2 Current | 4 | 7 | ma |
| Plate Resistance (Approx.). | 58000 | 52000 | ohms |
| Transconductance. | 3700 | 4100 | μ mhos |
| Load Resistance | 5500 | 5000 | ohms |
| Total Harmonic Distortion | 8 | 8 | % |
| Max.-Signal Power Output. | 2 | 4.5 | watts |

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

| | | |
|-------------------------------------|----------|--------|
| For fixed-bias operation. | 0.1 max. | megohm |
| For cathode-bias operation. | 0.5 max. | megohm |

AMPLIFIER — Class AB₁**Maximum Ratings, Design-Center Values:**

| | | |
|---|-----------------------|-------|
| PLATE VOLTAGE | 250 max. | volts |
| GRID-No.2 (SCREEN-GRID) VOLTAGE | 250 max. | volts |
| GRID-No.2 INPUT | 2 max. | watts |
| PLATE DISSIPATION | 12 max. | watts |
| PEAK HEATER-CATHODE VOLTAGE: | | |
| Heater negative with respect to cathode. | 200 max. | volts |
| Heater positive with respect to cathode. | 200 [▲] max. | volts |
| BULB TEMPERATURE (At hottest point | | |
| on bulb surface). | 250 max. | °C |

Typical Push-Pull Operation:

Unless otherwise specified, values are for 2 tubes

| | | |
|---|-------|-------|
| Plate Voltage | 250 | volts |
| Grid-No.2 Voltage | 250 | volts |
| Grid-No.1 (Control-Grid) Voltage [●] | -15 | volts |
| Peak AF Grid-No.1-to-Grid-No.1 Voltage. . . | 30 | volts |
| Zero-Signal Plate Current | 70 | ma |
| Max.-Signal Plate Current | 79 | ma |
| Zero-Signal Grid-No.2 Current | 5 | ma |
| Max.-Signal Grid-No.2 Current | 13 | ma |
| Effective Load Resistance (Plate | | |
| to plate) | 10000 | ohms |
| Total Harmonic Distortion | 5 | % |
| Max.-Signal Power Output. | 10 | watts |

[○], [▲], [●]: See next page.



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Maximum Circuit Values:

| | | |
|--------------------------------------|----------|--------|
| Grid-No.1-Circuit Resistance:• | | |
| For fixed-bias operation | 0.1 max. | megohm |
| For cathode-bias operation | 0.5 max. | megohm |

VERTICAL-DEFLECTION AMPLIFIER

Triode Connection†

Maximum Ratings, Design-Center Values Except as Noted:

For operation in a 525-line, 30-frame system□

| | | |
|--|------------|-------|
| DC PLATE VOLTAGE | 250 max. | volts |
| PEAK POSITIVE-PULSE PLATE VOLTAGE* (Absolute maximum) | 1100■ max. | volts |
| PEAK NEGATIVE-PULSE GRID-No.1 (CONTROL-GRID) VOLTAGE | 250 max. | volts |
| PEAK CATHODE CURRENT | 105 max. | ma |
| DC CATHODE CURRENT | 35 max. | ma |
| PLATE DISSIPATION | 9 max. | watts |
| PEAK HEATER-CATHODE VOLTAGE: | | |
| Heater negative with respect to cathode . | 200 max. | volts |
| Heater positive with respect to cathode . | 200▲ max. | volts |
| BULB TEMPERATURE (At hottest point on bulb surface) | 250 max. | °C |

Characteristics:

| | | |
|--|-------|-------|
| Plate Voltage | 250 | volts |
| Grid-No.1 Voltage | -12.5 | volts |
| Amplification Factor | 9.5 | |
| Plate Resistance (Approx.) | 1970 | ohms |
| Transconductance | 4800 | μmhos |
| Plate Current | 49.5 | ma |
| Grid-No.1 Voltage (Approx.) for plate ma. = 0.5 | -37 | volts |

Maximum Circuit Values:

| | |
|--------------------------------------|------------------|
| Grid-No.1-Circuit Resistance: | |
| For cathode-bias operation | 2.2 max. megohms |

- without external shield.
- ▲ The dc component must not exceed 100 volts.
- The type of input coupling used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.
- † Grid-No.2 (Screen-grid) connected to plate.
- As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.
- * This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.
- Under no circumstances should this absolute value be exceeded.

← Indicates a change.

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CURVES

For the 6AQ5-A, within its ratings, are the same
as those shown for Type 6V6