



6AQ5-A

BEAM POWER TUBE

7-PIN MINIATURE TYPE

With heater having controlled warm-up time

6AQ5-A

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.

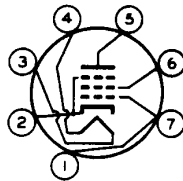
Direct Interelectrode Capacitances (Approx.):^o

Grid No.1 to plate.	0.4	μ f
Grid No.1 to cathode & grid No.3, grid No.2, and heater.	8	μ f
Plate to cathode & grid No.3, grid No.2, and heater.	8.5	μ 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.	°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	μmhos
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