



BEAM POWER TUBE

Miniature types used as output amplifiers primarily in automobile receivers and in ac-operated receivers. Type 6AQ5-A has a controlled heater warm-up time for use in television receivers employing series-connected heater strings. Within their maximum ratings, the performance of these types is equivalent to that of larger types 6V6 and 6V6-GT. For typical circuits employing type 6AQ5, both singly and in push-pull, refer to **CIRCUIT SECTION**.

6AQ5
6AQ5-A

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HEATER VOLTAGE (AC/DC)	6.3	volts
HEATER CURRENT	0.45	ampere
HEATER WARM-UP TIME (Average)* for 6AQ5-A	11	seconds
DIRECT INTERELECTRODE CAPACITANCES (Approx.):		
Grid No. 1 to Plate	0.35	μ f
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	8.3	μ f
Plate to Cathode, Heater, Grid No.2, and Grid No.3	8.2	μ f

* For definition of heater warm-up time and method for determining it, see type 6CG7.

CLASS A₁ AND CLASS AB₁ PUSH-PULL AMPLIFIER

Maximum Ratings:

PLATE VOLTAGE	250 max	volts
GRID-NO.2 (SCREEN-GRID) VOLTAGE	250 max	volts
PLATE DISSIPATION	12 max	watts
GRID-NO.2 INPUT	2 max	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	6AQ5 90 max	6AQ5-A 200 max
Heater positive with respect to cathode	90 max	200 max

■ The dc component must not exceed 100 volts.

Typical Operation:

Same as for type 6V6-GT within the limitations of the maximum ratings.

Maximum Circuit Values:

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

INSTALLATION AND APPLICATION

Type 6AQ5 requires a miniature seven-contact socket and may be mounted in any position. Outline 13, **OUTLINES SECTION**.

When the heater is operated on ac with a transformer, the winding of the transformer which supplies the heater circuit should operate the heater at the

recommended value for full-load operating conditions at average line voltage. Under any condition of operation, the heater voltage should not be allowed to vary more than 10 per cent from the rated value. When the 6AQ5 is used in automobile receivers, the heater terminals should be connected directly across the 6-volt battery.

Use of type 6AQ5 in a series string arrangement should be limited to tubes with the same heater-current rating. If it is necessary to use the 6AQ5 in series with tubes having different heater ratings, shunt resistors are required. Refer to ELECTRON TUBE INSTALLATION SECTION for additional heater considerations.

The cathode of the 6AQ5 should preferably be connected directly to the electrical mid-point of the heater circuit when the heater voltage is supplied from a transformer. When the 6AQ5 is operated in receivers employing a 6-volt storage battery for the heater supply, its cathode circuit is tied in either directly or through bias resistors to the negative side of the dc plate supply which is furnished either by the dc power line or the ac line through a rectifier. Under any circumstances, the heater-cathode voltage should be kept within ratings. If the use of a large resistor is necessary in some circuit designs, it should be bypassed by a suitable filter network or objectionable hum may develop.

In all services, precautions should be taken to insure that the dissipation rating is not exceeded with expected line-voltage variations, especially in the cases of fixed-bias operation. When the push-pull connection is used, fixed-bias values up to 10 per cent of each typical screen-grid voltage can be used without increasing distortion.

