



RCA-6AS7-G LOW MU TWIN POWER TRIODE

Amateur Net

\$5.45

Reduced To
\$4.25

Features

- High Efficiency. Usable plate swing is almost equal to plate voltage.
- Good Stability. Low amplification factor insures freedom from regeneration.
- Two Cathodes. Allows use of self-bias balancing of the two triode units.
- Low Distortion. Even harmonics almost cancel in class A push-pull circuits.
- Excellent Voltage Regulation. Output signal varies but slightly with change in load.
- Twin-Unit Construction. Provides circuit layout convenience.
- In voltage regulator service, a load current of 250 ma can be controlled with one 6AS7-G. Because of the 300-volt heater-to-cathode rating, no separate filament winding is needed.
- In bias regulator service, the tube's low internal resistance allows regulation as low as 20 volts.

Application Considerations

The following recommended practices should be observed when the 6AS7-G is used in audio-frequency amplifier applications.

1. The two units should always be used in push-pull, never parallel.
2. Always use self bias; fixed bias must not be used.
3. Separate cathode bias resistors, and by-pass capacitors, should be used for each unit.
4. The total series grid resistance, per unit, should be limited to one megohm.
5. Transformer, or impedance-coupling devices should be used in order to get sufficient voltage to fully swing the grids.
6. The transformer-coupled driver tube should be a medium-mu triode such as the 6J5, 6SR7, 6C4, 6SN7, 12AU7, etc. For self-biased operation of the driver tube, by-pass its cathode resistor with a capacitance of 8 uf or more.
7. The plate supply voltage for the driver tube should be at least 250 volts in order to obtain sufficient grid swing for the 6AS7-G.
8. In a voice-frequency speech amplifier using a single driver tube, the plate of the driver tube can be series-fed through the primary winding of the interstage push-pull transformer.
9. In wide-band, flat-response, audio amplifier service, the grids can be excited by:
 - (a) a push-pull stage through a high-fidelity push-pull interstage transformer.
 - (b) a push-pull stage through a center-tapped plate choke, capacitance-coupled to resistor-fed grids.
 - (c) a single tube with choke-fed plate, through a capacitance-coupled single-plate-to-push-pull-grids high-fidelity transformer.

6AS7-G LOW-MU TWIN POWER TRIODE

GENERAL DATA

Electrical:	
Heater, for Unipotential Cathode:*	
Voltage	6.3 ac or dc volts
Current	2.5 amp.
Mechanical:	
Mounting Position	any
Maximum Overall Length	5-5/16"
Maximum Seated Length	4-3/4"
Maximum Diameter	2-1/16"
Bulb	ST-16
Base	Medium Shell Octal 8-Pin

HAM TIPS is published by the RCA Tube Department, Harrison, N. J., and is made available to Amateurs and Radio Experimenters through RCA tube and parts distributors.

J. H. OWENS, W2FTW Editor
H. S. STAMM, W2WCT Associate Editor

AUDIO AMPLIFIER SERVICE

Values are for each unit

Maximum Ratings, Design Center Values:		
PLATE VOLTAGE	250 max.	volts
PLATE CURRENT	125 max.	ma
PLATE DISSIPATION	13 max.	watts
PEAK HEATER-CATHODE VOLTAGE		
Heater negative with respect to cathode	300 max.	volts
Heater positive with respect to cathode	300 max.	volts
Typical operation, Class A ₁ push-pull amplifier. Unless otherwise specified, values are for both units.		
Plate	200	250 volts
Grid	-90	-125 volts
Cathode Resistor (per unit)	1500	2500 ohms
Peak AF grid to grid voltage	190	255 volts
Zero signal plate current	120	100 ma
Max. signal plate current	128	106 ma
Effective load resistance (plate to plate)	4000	6000 ohms
Total harmonic distortion (less than)	4	4 per cent
Max. signal power output	11	13 watts
Amplification Factor (per unit)	2.0	2.0
Plate Resistance (per unit)	280	280 ohms

* It is essential that precaution be taken in equipment design to prevent subjecting the tube to full load current of 250 ma before its cathodes have reached normal operating temperature. The cathodes require approximately 15 seconds to attain normal operating temperature. Unless this precaution is observed, the cathodes will be seriously damaged, if not completely ruined. In speech amplifier service, as indicated under typical operating conditions, the plate voltage may be applied simultaneously with the filament voltage.