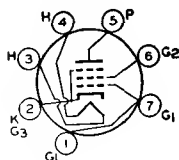


6AQ5A**BEAM POWER TUBE****5AQ5, 12AQ5**

Miniature type used as output amplifier primarily in automobile receivers and in ac-operated receivers and, triode-connected, as a vertical-deflection amplifier in television receivers. Outlines section, 5D; requires miniature 7-contact socket. Within its maximum ratings, the performance of this type is equivalent to that of larger types 6V6 and 6V6GTA. Types 5AQ5 and 12AQ5 are identical with type 6AQ5A except for heater ratings.

**7BZ**

	5AQ5	6AQ5A	12AQ5	
Heater Voltage (ac/dc)	4.7	6.3	12.6	volts
Heater Current	0.6	0.45	0.225	ampere
Heater Warm-up Time (Average)	11	11	—	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):				
Grid No.1 to Plate			0.4	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			8	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			8.5	pF

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	275	volts
Grid-No.2 (Screen-Grid) Voltage	275	volts
Plate Dissipation	12	watts
Grid-No.2 Input	2	watts
Bulb Temperature (At hottest point)	250	°C

CHARACTERISTICS (Triode Connection)

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 current of 0.5 mA	—37	volts

TYPICAL OPERATION

Same as for type 6V6GTA within the limitations of the maximum ratings.

MAXIMUM CIRCUIT VALUES

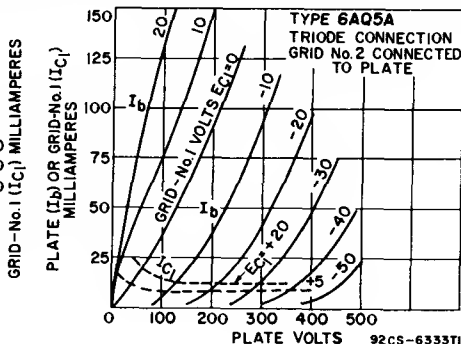
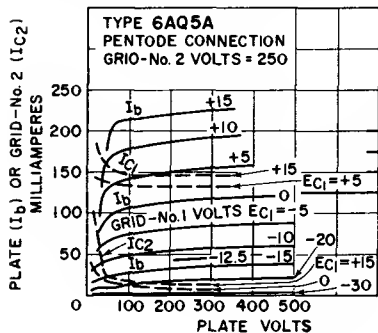
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.5	megohm

Vertical Deflection Amplifier (Triode Connection)^a

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Voltage	275	volts
Peak Positive-Pulse Plate Voltage [#]	1100	volts
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	275	volts



Peak Cathode Current	115	mA
Average Cathode Current	40	mA
Plate Dissipation	10	watts
Bulb Temperature (At hottest point)	250	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance, for cathode-bias operation	2.2	megohms
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° Grid No.2 connected to plate.

Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).

Refer to chart at end of section.

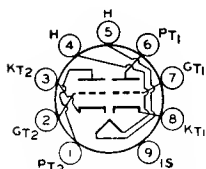
6AQ6

Refer to chart at end of section.

6AQ7GT

Refer to chart at end of section.

6AQ8



9AJ

HIGH-MU TWIN TRIODE

Miniature types used as rf amplifier and self-oscillating mixer in FM/AM radio receivers. Outlines section, 6B; requires 9-contact socket.

**6AQ8/
ECC85**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.435	ampere
Peak Heater-Cathode Voltage	±90 max	volts

Direct Interelectrode Capacitances:	Unit No.1	Unit No.2	
Grid to Plate	1.5	1.5	pF
Cathode to Plate	0.18	0.18	pF
Grid to Cathode, Heater, and Internal Shield	3	3	pF
Plate to Cathode, Heater, and Internal Shield	1.2	1.2	pF
Plate to Grid of Other Unit	0.008 max	0.008 max	pF
Plate to Cathode of Other Unit	0.008 max	0.008 max	pF
Grid to Cathode of Other Unit	0.003 max	0.003 max	pF
Plate of Unit No.1 to Plate of Unit No.2		0.04 max	pF
Grid of Unit No.1 to Grid of Unit No.2		0.003 max	pF

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values, Each Unit)

Plate Supply Voltage	550	volts
Plate Voltage	300	volts
Grid Voltage, Negative-bias value	100	volts
Cathode Current	15	mA
Plate Dissipation:		
For either plate	2.5	watts
For both plates with both units operating	4.5	watts

CHARACTERISTICS

Plate Voltage	250	volts
Grid Voltage, Negative-bias value	2.3	volts
Plate Current	10	mA
Transconductance	5900	μmhos
Amplification Factor	57	

TYPICAL OPERATION (Each Unit)

	RF Amplifier	Converter	
Plate Supply Voltage	250	250	volts
Plate Voltage	230	—	volts
Plate Resistor	1800	12000	ohms
Grid Resistor	—	1	megohm
Grid Voltage	—2	—	volts
RMS Oscillator Voltage	—	3	volts
Cathode-Bias Resistor	200	—	ohms
Plate Resistance (Approx.)	9700	22000	ohms
Transconductance	6000	—	μmhos
Conversion Transconductance	—	2300	μmhos
Input Resistance at frequency of 100 MHz	6000	15000	ohms
Plate Current	10	5.2	mA
Equivalent Noise Resistance	500	—	ohms

MAXIMUM CIRCUIT VALUES (Each Unit)

Grid-Circuit Resistance	1	megohm
Resistance between Cathode and Heater	20000	ohms