

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

	Triode Unit	Pentode Unit	
Plate Voltage	330	330	volts
Grid-No.2 (Screen-Grid) Voltage	—	200	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	1.1	10	watts
Grid-No.2 Input	—	1.5	watts

CHARACTERISTICS

Plate Voltage	150	55	250	volts
Grid-No.2 Voltage	—	125	150	volts
Grid-No.1 Voltage	—	0	—	volts
Cathode-Bias Resistor	350	—	56	ohms
Amplification Factor	39	—	—	
Plate Resistance (Approx.)	8500	—	40000	ohms
Transconductance	4600	—	30000	μmhos
Plate Current	6.2	56	28	mA
Grid-No.2 Current	—	21	5.6	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—7	—	—	volts
Grid-No.1 Voltage (Approx.) for plate current of 100 μA	—	—	—5.4	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5	0.1	megohm
For cathode-bias operation	1	0.25	megohm

Refer to chart at end of section.

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For replacement use type 6AK5/EF95.

6AG11

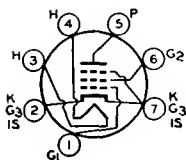
6AH4GT

6AH6

6AH9

6AJ8/ECH81

6AK5



7BD

SHARP-CUTOFF PENTODE

6AK5/
EF95

Miniature types used as rf or if amplifiers especially in high-frequency wide-band applications at frequencies up to 400 MHz. Outlines section, 5B; require miniature 7-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.175	ampere
Peak Heater-Cathode Voltage	±90 max	volts
Direct Interelectrode Capacitances (Approx.):*		
Grid No.1 to Plate	0.02 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	4	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	2.8	pF

* With external shield connected to pin 2 or 7.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Center Values)

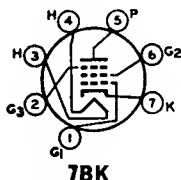
Plate Voltage	180	volts
Grid-No.2 (Screen-Grid) Voltage	See curve page 300	
Grid-No.2 Supply Voltage	180	volts
Grid-No.1 Voltage, Positive-bias value	0	volts
Plate Dissipation	1.7	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 90 volts	0.5	watt
For grid-No.2 voltages between 90 and 180 volts	See curve page 300	
Cathode Current	18	mA

CHARACTERISTICS

Plate Supply Voltage	120	180	volts
Grid-No.2 Supply Voltage	120	120	volts
Cathode-Bias Resistor	180	180	ohms
Plate Resistance (Approx.)	0.3	0.5	megohm
Transconductance	5000	5100	μ mhos
Plate Current	7.5	7.7	mA
Grid-No.2 Current	2.5	2.4	mA
Grid-No.1 Voltage for plate current of 10 μ A	-8.5	-8.5	volts

6AK6INDUSTRIAL
TYPE**POWER AMPLIFIER PENTODE**

Miniature type for use as a power output pentode in compact equipment. Outlines section, 5C; requires miniature 7-contact socket.

**7BK**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.15	ampere
Heater-Cathode Voltage	100 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid to Plate	0.12	pF
Input	3.6	pF
Output	4.2	pF

A-F Power Amplifier**MAXIMUM RATINGS (Design-Center Values)**

Plate Voltage	300	volts
Screen Voltage (Grid No. 2)	250	volts
Plate Dissipation	2.75	watts
Screen Dissipation	0.75	watt

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	180	volts
Suppressor (Grid No. 3)	Connected to cathode at socket	
Screen Voltage	180	volts
Grid Voltage (Grid No. 1)	-9	volts
Peak A-F Grid Voltage	9	volts
Zero-Signal Plate Current	15	mA
Zero-Signal Screen Current	2.5	mA
Plate Resistance	0.2	megohm
Transconductance	2300	μ mhos
Load Resistance	10000	ohms
Total Harmonic Distortion	10	%
Max.-Sig. Power Output	1.1	watts

MAXIMUM CIRCUIT VALUES

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

6AK8/EABC80

Refer to chart at end of section.

6AK10

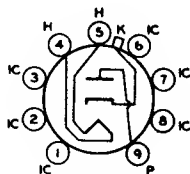
Refer to chart at end of section.

6AL3

Refer to chart at end of section.

6AL3/EY88**HALF-WAVE
VACUUM RECTIFIER**

Miniature type used as damper tube in horizontal-deflection circuits of black-and-white television receivers. Outlines section, 7D; requires miniature 9-contact socket. Socket terminals 1, 2, 3, 6, 7, and 8 should not be used as tie points. It is especially important that this tube, like other power-handling tubes, be adequately ventilated. Heater: volts (ac/dc), 6.3; amperes, 1.55.

**9CB**