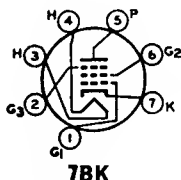


CHARACTERISTICS

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

6AK6**INDUSTRIAL
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

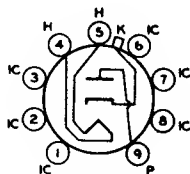
Refer to chart at end of section.

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**

Damper Service

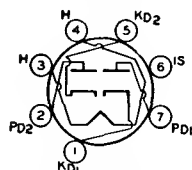
For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Center Values)

Peak Inverse Plate Voltage# (Absolute maximum)	7500*	volts
Peak Plate Current	550	mA
Average Plate Current	220	mA
Plate Dissipation	5	watts
Peak Heater-Cathode Voltage	6600	volts

* Under no circumstances should this absolute value be exceeded.

Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).



6BT

MHz. Outlines section, 5B; requires miniature 7-contact socket. Types 3AL5 and 12AL5 are identical with type 6AL5 except for heater ratings.

TWIN DIODE

6AL5

3AL5, 12AL5

Miniature, high-perveance type used as detector in FM and television circuits, especially as a ratio detector in ac-operated FM receivers. Each diode section can be used independently of the other, or the two sections can be combined in parallel or full-wave arrangement. Resonant frequency of each unit is approximately 700

	3AL5	6AL5	12AL5	
Heater Voltage (ac/dc)	3.15	6.3	12.6	volts
Heater Current	0.6	0.3	0.15	ampere
Heater Warm-up Time (Average)	11	—	—	seconds
Peak Heater-Cathode Voltage	±330 max	±330 max	±330 max	volts

Direct Interelectrode Capacitances:

Plate No.1 to Cathode No.1, Heater, and Internal Shield	2.5	pF
Plate No.2 to Cathode No.2, Heater, and Internal Shield	2.5	pF
Cathode No.1 to Plate No.1, Heater, and Internal Shield	3.4	pF
Cathode No.2 to Plate No.2, Heater, and Internal Shield	3.4	pF
Plate No.1 to Plate No.2	0.068 max	pF

Half-Wave Rectifier

MAXIMUM RATINGS (Design-Center Values)

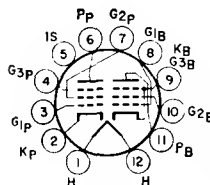
Peak Inverse Plate Voltage	330	volts
Peak Plate Current (Per Plate)	54	mA
Average Output Current (Per Plate)	9	mA

TYPICAL OPERATION

AC Plate Voltage per Plate (rms)	117	volts
Min. Total Effective Plate-Supply Impedance per Plate	300	ohms
Average Output Current per Plate	9	mA

Refer to chart at end of section.

6AL7GT



12BU

BEAM POWER TUBE— SHARP-CUTOFF PENTODE

6AL11

10AL11, 12AL11

Duodecar type used as FM detector and audio-frequency output amplifier in television receivers. Outlines section, 8C; requires duodecar 12-contact socket. Types 10AL11 and 12AL11 are identical with type 6AL11 except for heater ratings.

	6AL11	10AL11	12AL11	
Heater Voltage (ac/dc)	6.3	9.8	12.6	volts
Heater Current	0.9	0.6	0.45	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