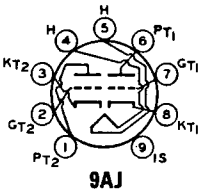
Refer to chart at end of section. **6BK5**

Refer to chart at end of section. **6BK7A**



9AJ

MEDIUM-MU TWIN TRIODE **6BK7B**
5BK7A

Miniature type used as a cascode amplifier in vhf color and black-and-white television tuners and in push-pull cathode-drive rf amplifiers. **Outlines section,** 6B; requires miniature 9-contact socket. For typical operation as a resistance-coupled amplifier, refer to **Resistance-Coupled Amplifier** section. Type 5BK7A is identical with type 6BK7B except for heater ratings.

	5BK7A	6BK7B	
Heater Voltage (ac/dc)	4.7	6.3	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200*max	±200*max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:	Unit No.1	Unit No.2	
Grid to Plate	1.8	1.8	pF
Grid to Cathode, Heater, and Internal Shield	3	3	pF
Plate to Cathode, Heater, and Internal Shield	1	0.9	pF
Cathode to Grid, Heater, and Internal Shield	6	6	pF
Plate to Grid, Heater, and Internal Shield	2.4	2.4	pF
Plate to Cathode	0.22	0.22	pF
Heater to Cathode	2.8	3	pF
Grid of Unit No.1 to Grid of Unit No.2		0.004 max	pF
Plate of Unit No.1 to Plate of Unit No.2		0.075 max	pF

* Rating may be as high as 300 volts under cutoff conditions when tube is used as a cascode amplifier, the units are connected in series, and heater is negative with respect to cathode.

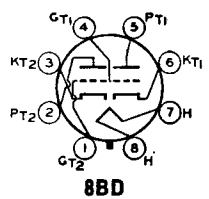
Class A_1 Amplifier (Each Unit)

MAXIMUM RATINGS (Design-Center Value)

Plate Voltage	300	volts
Grid Voltage, Negative-bias value	50	volts
Plate Dissipation	2.7	watts
CHARACTERISTICS		
Plate Supply Voltage	150	volts
Cathode-Bias Resistor	56	ohms
Amplification Factor	43	
Plate Resistance (Approx.)	4600	ohms
Transconductance	9300	μmhos
Plate Current	18	mA
Grid Voltage (Approx.) for plate current of 10 μA	—11	volts

Refer to chart at end of section. **6BL4**

Refer to chart at end of section. **6BL7GT**



8BD

MEDIUM-MU TWIN TRIODE **6BL7GTA**

Glass octal type used as combined vertical-deflection amplifier and vertical-deflection oscillator in color and black-and-white television receivers. When so operated, it is recommended that unit No.1 (pins 4, 5, and 6) be used as the oscillator. **Outlines section,** 13D; requires octal socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	1.5	amperes
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts

Direct Interelectrode Capacitances (Approx.):	Unit No. 1	Unit No. 2	
Grid to Plate	6	6	pF
Grid to Cathode and Heater	4.2	4.6	pF
Plate to Cathode and Heater	0.9	0.9	pF

Class A_1 Amplifier

CHARACTERISTICS (Each Unit)				
Plate Voltage	150	250	250	volts
Grid Voltage	0	—17	—9	volts
Amplification Factor	—	—	15	
Plate Resistance (Approx.)	—	—	2150	ohms
Transconductance	—	—	7000	μmhos
Plate Current	65▪	4	40	mA
Grid Voltage (Approx.) for plate current of 50 μA	—	—	—23	volts

▪ This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Vertical-Deflection Oscillator or Amplifier•

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

MAXIMUM RATINGS (Design-Center Values)	Oscillator	Amplifier	
DC Plate Voltage	500	500	volts
Peak Positive-Pulse Plate Voltage# (Absolute Maximum)	—	2000△	volts
Peak Negative-Pulse Grid Voltage	400	250	volts
Peak Cathode Current	210	210	mA
Average Cathode Current	60	60	mA
Plate Dissipation:			
For either plate	10	10	watts
For both plates with both units operating	12	12	watts
MAXIMUM CIRCUIT VALUE			
Grid-Circuit Resistance	4.7	4.7†	megohms

• Unless otherwise specified, values are for each unit.

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

△ Under no circumstances should this absolute value be exceeded.

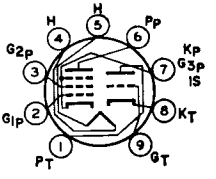
† For cathode-bias operation.

6BL8 Refer to chart at end of section.

6BL8/ ECF80

4BL8/XCF80

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE



9DC

Miniature type used in frequency-changer service in color and black-and-white television receivers. **Outlines section,** 6B; require miniature 9-contact socket. Type 4BL8/XCF80 is identical with type 6BL8/ECF80 except for heater ratings.

	4BL8/ XCF80	6BL8/ ECF80	
Heater Voltage (ac/dc)	4.6	6.3	volts
Heater Current	0.6	0.45	ampere
Peak Heater-Cathode Voltage	±100 max	±100 max	volts

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Center Values)	Triode Unit	Pentode Unit	
Plate Supply Voltage	550	550	volts
Plate Voltage	250	250	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	550	volts
Grid-No.2 Voltage:			
With cathode current of 14 mA	—	175	volts
With cathode current less than 10 mA	—	200	volts
Cathode Current	14	14	mA
Plate Dissipation	1.5	1.7	watts
Grid-No.2 Input:			
With plate dissipation greater than 1.2 watts	—	0.5	watt
With p.late dissipation less than 1.2 watts	—	0.75	watt