

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Center Values)

Plate Voltage	300	volts
Grid-No.2 (Screen-Grid) Voltage	See curve page 300	
Grid-No.2 Supply Voltage	300	volts
Plate Dissipation	3	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 150 volts	0.6	watt
For grid-No.2 voltages between 150 and 300 volts	See curve page 300	
Grid-No.1 (Control-Grid) Voltage:		
Negative-bias value	50	volts
Positive-bias value	0	volts

CHARACTERISTICS

Plate Voltage	100	250	volts
Grid No.3	Connected to cathode	at socket	
Grid-No.2 Voltage	100	100	volts
Grid-No.1 Voltage	-1	-1	volt
Plate Resistance (Approx.)	0.25	1.3	megohms
Transconductance	3650	3600	μmhos
Plate Current	9	9.2	mA
Grid-No.2 Current	3.5	3.3	mA
Grid-No.1 Voltage (Approx.) for transconductance of 10 μmhos	-20	-20	volts

6BJ6A

Refer to chart at end of section.

For replacement use type 6BJ6.

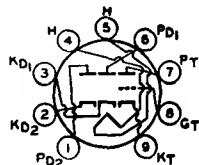
6BJ7

Refer to chart at end of section.

6BJ8

TWIN DIODE—
MEDIUM-MU TRIODE

Miniature type used in black-and-white and color television receiver applications. The diode units are used in phase-detector, phase-comparator, ratio-detector or discriminator, and horizontal afc discriminator circuits. The triode unit is used in phase-splitter, audio-frequency amplifier, vertical-deflection amplifier, and low-frequency oscillator applications. Outlines section, 6E; requires miniature 9-contact socket.



9ER

requires miniature

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.6	ampere
Heater Warm-up Time (Average)	11	seconds
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances:		
Triode Unit:		
Grid to Plate	2.6	pF
Grid to Cathode and Heater	2.8	pF
Plate to Cathode and Heater	0.31	pF
Diode Units:		
Plate to Cathode and Heater (Each Unit)	1.9	pF
Cathode to Plate and Heater (Each Unit)	4.6	pF
Plate of Unit No.1 to Plate of Unit No.2	0.06 max	pF
Plate of Diode Unit No.1 to Triode Grid	0.07 max	pF
Plate of Diode Unit No.2 to Triode Grid	0.11 max	pF
Plate of Either Diode Unit to All Other Electrodes	3	pF
Cathode of Either Diode Unit to All Other Electrodes	4.8	pF

Triode Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid Voltage, Positive-bias value	0	volts
Average Cathode Current	22	mA
Plate Dissipation	4	watts

CHARACTERISTICS

Plate Voltage	90	250	volts
Grid Voltage	0	-9	volts
Amplification Factor	22	20	
Plate Resistance (Approx.)	4700	7150	ohms
Transconductance	4700	2800	μmhos

Plate Current	13.5	8	mA
Plate Current for grid voltage of -12.5 volts	—	1.7	mA
Grid Voltage (Approx.) for plate current of 10 μ A ..	-7	-18	volts
MAXIMUM CIRCUIT VALUE			
Grid-Circuit Resistance		1	megohm

Triode Unit as Vertical-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Voltage	330	volts
Peak Positive-Pulse Plate Voltage#	1200	volts
Peak Negative-Pulse Grid Voltage	275	volts
Peak Cathode Current	77	mA
Average Cathode Current	22	mA
Plate Dissipation	4	watts

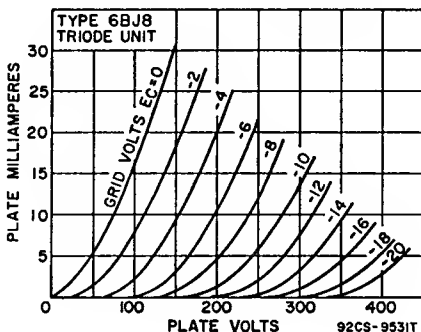
MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance, for cathode-bias operation	2.2	megohms
# Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).		

Diode Units

MAXIMUM RATINGS (Design-Maximum Values)

Plate Current (Each Unit):		
Peak	54	mA
Average	9	mA

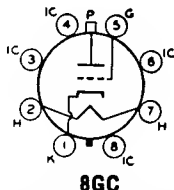


Refer to chart at end of section.

6BK4
6BK4A
6BK4B

6BK4C/
6EL4A

BEAM TRIODE



Glass octal type used for the voltage regulation of high-voltage, low-current dc power supplies in color and black-and-white television receivers. Outlines section, 21B; requires octal socket. Socket terminals 3, 4, 6, and 8 should not be used for tie points. For high voltage and X-ray safety considerations, refer to page 93.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.2	ampere
Peak Heater-Cathode Voltage	—450* max	volts
Direct Interelectrode Capacitances (Approx.):†		
Grid to Plate	0.03	pF
Grid to Cathode and Heater	2.6	pF
Plate to Cathode and Heater	1	pF