

MAXIMUM CIRCUIT VALUES**Grid-No.1-Circuit Resistance:**

For fixed-bias operation	0.5	0.5	megohm
For cathode-bias operation	0.5	1	megohm

* Grid No.2 to Grid No.1.

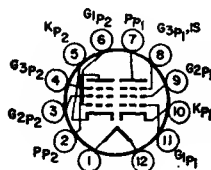
9AU7

Refer to type 12AU7A.

9BJ11**BEAM POWER TUBE—
SHARP-CUTOFF PENTODE**

Duodecar type used in two-stage video-if-amplifier in television receivers. Pentode unit is used as the input stage and beam power unit as the output stage. Outlines section, 8B; requires duodecar 12-contact socket.

Heater Voltage (ac/dc)	9.6	volts
Heater Current	0.45	ampere
Heater Warm-up Time (Average)	11	seconds
Heater-Cathode Voltage:		
Peak value	±200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances:		
Pentode Unit:		
Grid No.1 to Plate	0.008	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, Grid No.3 of Beam Power Unit, and Internal Shield	9.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, Grid No.3 of Beam Power Unit, and Internal Shield	3.4	pF
Beam Power Unit:		
Grid No.1 to Plate	0.016	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	8.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	3	pF

**12FU****Class A₁ Amplifier****MAXIMUM RATINGS (Design-Maximum Values)**

	Pentode Unit	Beam Power Unit	
Plate Voltage	160	160	volts
Grid-No.3 (Suppressor-Grid) Voltage:			
Positive-bias value	10	0	volts
Negative-bias value	50	—	volts
Grid-No.2 (Screen-Grid) Voltage	160	160	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.8	2.2	watts
Grid-No.2 Input	1.25	0.55	watts

CHARACTERISTICS

Plate Supply Voltage	110	125	volts
Grid No.3	Connected to cathode at socket		
Grid-No.2 Voltage	110	125	volts
Grid-No.1 Resistor	0.1	—	megohm
Cathode-Bias Resistor	—	120	ohms
Plate Resistance (Approx.)	40000	40000	ohms
Transconductance	7500	9600	μmhos
Plate Current	5.8	8.5	mA
Grid-No.2 Input	6.8	2.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—3	—4.5	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance	0.1	—	megohm
Grid-No.3-Circuit Resistance	1.5	—	megohm

9BR7

Refer to chart at end of section.

9CL8

Refer to chart at end of section.

9EA8

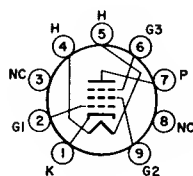
Refer to type 6EA8.

9GV8

Refer to chart at end of section.

9GV8/XCL85

Refer to type 6GV8/EL500.



9RF

SHARP-CUTOFF PENTODE

9KC6

Miniature type used as chroma bandpass amplifier, color demodulator, or video amplifier in color television receivers. Outlines section, 6E; requires miniature 9-contact socket. Heater: volts, 8.7; amperes, 0.45; warm-up time, 11 seconds; maximum heater-cathode voltage, ± 200 peak, 100 average.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

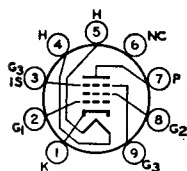
Plate Voltage	400	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See curve page 98	
Grid-No.3 (Suppressor-Grid) Voltage:		
Positive-bias value	0	volts
Negative-bias value	100	volts
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	7	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts	1.5	watts
For grid-No.2 voltages between 165 and 330 volts	See curve page 98	

CHARACTERISTICS

Plate Supply Voltage	250	250	50	volts
Grid-No.2 Voltage	150	100	100	volts
Grid-No.1 Voltage	0	-1	0	volts
Grid-No.3 Voltage (referred to negative end of cathode)	0	-25	—	volts
Cathode-Bias Resistor	56	0	—	ohms
Plate Current	18	1	25	mA
Grid-No.2 Current	9	13	25	mA
Transconductance:				
Grid No.1 to plate	24000	—	—	μ mhos
Grid No.3 to plate	500	—	—	μ mhos
Plate Resistance (Approx.)	55000	—	—	ohms
Grid-No.1 Voltage (Approx.) for plate current of 100 μ A	-4.1	—	—	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.25	megohm	
For cathode-bias operation	0.5	megohm	
Grid-No.3-Circuit Resistance	1	megohm	



9KX

SHARP-CUTOFF PENTODE

9KX6

Miniature type with frame grid used as video output amplifier in color and black-and-white television receivers. Outlines section, 6E; requires miniature 9-contact socket. Heater: volts, 8.7; amperes, 0.45; warm-up time, 11 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	400	volts
Grid-No.3 (Suppressor-Grid) Voltage, Positive value	0	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive value	0	volts
Plate Dissipation	11.5	watts
Grid-No.2 Input	1.5	watts

CHARACTERISTICS

Plate Voltage	250	50	volts
Grid-No.3 Voltage	Connected to cathode at socket		
Grid-No.2 Supply Voltage	150	125	volts
Grid-No.1 Voltage	0	0	volts