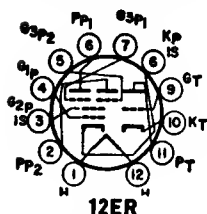


MAXIMUM CIRCUIT VALUES**Grid-No.1-Circuit Resistance:**

For fixed-bias operation	0.5	0.25	megohm
For cathode-bias operation	1	1	megohm

**TRIODE—TWIN PENTODE****6BA11****8BA11**

Duodecar type used as vertical-deflection oscillator and for combined sync-age applications in color and black-and-white television receivers. Outlines section, 8B; requires duodecar 12-contact socket. Type 8BA11 is identical with type 6BA11 except for heater ratings.

	6BA11	8BA11	
Heater Voltage (ac/dc)	6.3	8.4	volts
Heater Current	0.6	0.45	amperes
Heater Warm-up Time	11	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:			
Triode Unit:			
Grid to Plate		2	pF
Grid to Cathode and Heater		2	pF
Plate to Cathode, Heater, and Internal Shield		1.9	pF
Pentode Unit (Each Unit):			
Grid No.3 to Plate		2	pF
Grid No.3 to all Other Electrodes		6	pF
Grid No.1 to all Other Electrodes		3	pF
Plate to all Other Electrodes		3	pF
Grid No.3 of Pentode 1 to Grid No.3 of Pentode 2		0.026 max	pF

Triode Unit as Class A₁ Amplifier**MAXIMUM RATINGS (Design-Center Values)**

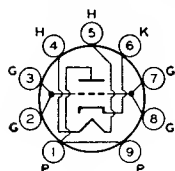
Plate Voltage	300	volts
Average Cathode Current	20	mA
Plate Dissipation	1.5	watts

CHARACTERISTICS

Plate Voltage	250	volts
Grid Voltage	—11	volts
Amplification Factor	18	
Transconductance	1800	μmhos
Plate Current	5	mA
Grid Voltage (Approx.) for plate current of 100 μA	—18	volts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:		
For fixed-bias operation	0.25	megohm
For cathode-bias operation	1	megohm

**MEDIUM-MU TRIODE****6BC4**

Miniature type used as an rf amplifier in the cathode-drive circuits of uhf television tuners covering the frequency range of 470 to 890 MHz. Outlines section, 6A; requires miniature 9-contact socket.

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.225	ampere
Peak Heater-Cathode Voltage	±75 max	volts
Direct Interelectrode Capacitances (Approx.):		
Grid to Plate	1.6	pF
Grid to Heater and Cathode	2.9	pF
Plate to Heater and Cathode	0.26	pF
Heater to Cathode	2.7	pF

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Center Values)**

Plate Voltage	250	volts
Cathode Current	25	mA
Plate Dissipation	2.5	watts

CHARACTERISTICS

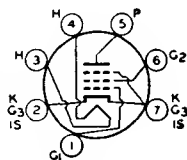
Plate Supply Voltage	150	volts
Cathode-Bias Resistor	100	ohms
Amplification Factor	48	
Plate Resistance (Approx.)	4800	ohms
Transconductance	10000	μ mhos
Plate Current	14.5	mA
Grid Voltage (Approx.) for plate current of 10 μ A	-10	volts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:	
For fixed-bias operation	Not recommended
For cathode-bias operation	0.5 megohm

6BC53BC5/3CE5,
6BC5/6CE5**SHARP-CUTOFF PENTODE**

Miniature type used in compact radio equipment as an rf or if amplifier at frequencies up to 400 MHz. Outlines section, 5C; requires miniature 7-contact socket. For typical operation as resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section. Types 3BC5/3CE5 and 6BC5/6CE5 are identical with type 6BC5 except for heater ratings.

**7BD**

	3BC5/3CE5	6BC5 6BC5/6CE5	
Heater Voltage (ac/dc)	3.15	6.3	volts
Heater Current	0.6	0.3	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	± 200 max	± 90 max	volts
Average value	100 max	—	volts
Direct Interelectrode Capacitances:			
Pentode Connection:			
Grid No.1 to Plate		0.030 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		6.5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		1.8	pF
Triode Connection:*			
Grid No.1 to Plate and Grid No.2		2.5	pF
Grid No.1 to Cathode, Heater, Grid No.3, and Internal Shield ..		3.9	pF
Plate and Grid No.2 to Cathode, Heater, Grid No.3, and Internal Shield		3	pF

* Grid No.2 connected to plate.

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Center Values)**

	Triode Connection*	Pentode Connection	
Plate Voltage	300	300	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	300	volts
Grid-No.2 Voltage	—	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.5	2	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 150 volts	—	0.5	watt
For grid-No.2 voltages between 150 and 300 volts	—	See curve page 98	

CHARACTERISTICS

	Triode Connection*	Pentode Connection	
Plate Supply Voltage	180 250	100 125 250	volts
Grid-No.2 Supply Voltage	—	100 125 150	volts
Cathode-Bias Resistor	330 820	180 100 180	ohms
Amplification Factor	42 40	—	
Plate Resistance (Approx.)	0.006 0.009	0.6 0.5 0.8	megohm
Transconductance	6000 4400	4900 6100 5700	μ mhos
Plate Current	8 6	4.7 8 7.5	mA
Grid-No.2 Current	—	1.4 2.4 2.1	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μ A	—	-5 -6 -8	volts

* Grid No.2 connected to plate.