

Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	volts
Plate Dissipation	5	watts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts	1.1	watts
For grid-No.2 voltages between 165 and 330 volts	See curve page 98	

CHARACTERISTICS

Plate Supply Voltage	60	200	volts
Grid-No.2 Supply Voltage	150	150	volts
Grid-No.1 Voltage	0	—	volts
Cathode-Bias Resistor	—	100	ohms
Plate Resistance (Approx.)	—	60000	ohms
Transconductance	—	11500	μ mhos
Plate Current	55 ^a	25	mA
Grid-No.2 Current	18 ^a	5.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 100 μ A	—	-10	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1	megohm
For cathode-bias operation	0.25	megohm

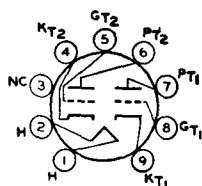
^a This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Diode Units (Each Unit)**MAXIMUM RATINGS (Design-Maximum Values)**

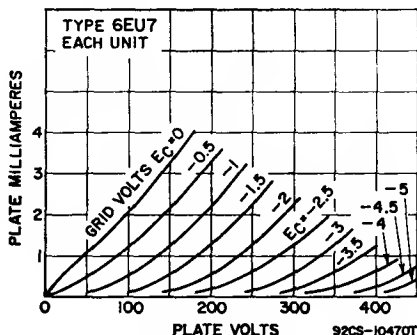
Average Plate Current	3	mA
CHARACTERISTICS, Instantaneous Value		
Tube Voltage Drop for plate current of 1.5 mA	10	volts

6EU7**HIGH-MU TWIN TRIODE**

Miniature type used in high-gain, resistance-coupled, low-level audio-amplifier applications where low-hum and non-microphonic characteristics are important, such as microphone amplifiers and pre-amplifiers for phonographs. Outlines section, 6B; requires miniature 9-contact socket. For typical operation as a resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section.

**9LS**

Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.3	ampere
Heater-Cathode Voltage:		
Peak value	± 200 max	volts
Average value	100 max	volts
Direct Interelectrode Capacitances (Each Unit, Approx.):		
Grid to Plate	1.5	pF
Grid to Cathode and Heater	1.6	pF
Plate to Cathode and Heater	0.2	pF



92CS-10470T

Equivalent Noise and Hum Voltage (Referenced to Grid,

Each Unit):

Average Value* 1.8 microvolts rms

* Measured in "true rms" units under the following conditions: Heater volts (ac), 6.3; center-tap of heater transformer grounded; plate supply volts, 250; plate load resistor, 100000 ohms; cathode resistor, 2700 ohms; cathode bypass capacitor, 100 μ F; grid resistor, 0 ohms; amplifier frequency range, 25 to 10000 Hz.

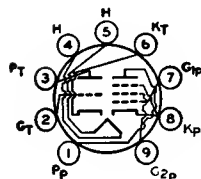
Class A₁ Amplifier (Each Unit)

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	330	volts
Grid Voltage:		
Negative-bias value	55	volts
Positive-bias value	0	watts
Plate Dissipation	1.2	watts

CHARACTERISTICS

Plate Voltage	100	250	volts
Grid Voltage	-1	-2	volts
Amplification Factor	100	100	
Plate Resistance (Approx.)	80000	62500	ohms
Transconductance	1250	1600	μ mhos
Plate Current	0.5	1.2	mA



9JF

MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE

6EU8

5EU8

Miniature type used as combined triode oscillator and pentode mixer in television receivers. Outlines section, 6B; requires miniature 9-contact socket. Type 5EU8 is identical with type 6EU8 except for heater ratings.

	5EU8	6EU8	
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

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Center Values)

	Triode Unit	Pentode Unit	
Plate Voltage	330	330	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-bias value	0	0	volts
Plate Dissipation	3	3.1	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	0.55	watt
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 98	

CHARACTERISTICS

Plate Supply Voltage	150	125	volts
Grid-No.2 Supply Voltage	—	125	volts
Grid-No.1 Voltage	—	-1	volt
Cathode-Bias Resistor	56	—	ohms
Amplification Factor	40	—	
Plate Resistance (Approx.)	5000	80000	ohms
Transconductance	8500	6400	μ mhos
Plate Current	18	12	mA
Grid-No.2 Current	—	4	mA
Cathode Warm-up Time*	35	—	seconds
Grid-No.1 Voltage (Approx.) for plate current of 10 μ A	-12	-9	volts

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance	0.1	0.1	megohm
------------------------------	-----	-----	--------

* The cathode warm-up time is defined as the time required for the transconductance to reach 6500 μ mhos when the tube is operated from a cold start with dc plate volts = 100, grid volts = 0, and heater volts = 5.5.