Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage (Each Unit)	300	volts
Grid-No.3 (Suppressor-Grid) Voltage (Each Unit):		
Peak positive value	50	volts
DC negative value	50	volts
DC positive value	3	volts
Grid-No.2 (Screen-Grid) Voltage	150	volts
Grid-No.1 (Control-Grid) Voltage, Negative-bias value	50	volts
Cathode Current	12	mA
Plate Dissipation (Each Unit)	1.1	watts
Grid-No.2 Input	0.75	watt

CHARACTERISTICS

	With One Unit Operating*		
Plate Voltage	100	100	volts
Grid-No.3 Voltage	0	0	volts
Grid-No.2 Voltage	67.5	67.5	volts
Grid-No.1 Voltage	0	▪	volts
Transconductance, Grid No.3 to Plate	—	450	μmhos
Transconductance, Grid No.1 to Plate	1100	—	μmhos
Plate Current	—	2	mA
Grid-No.3 Voltage (Approx.) for plate current of 100 μA	—	—3.5	volts
Grid-No.1 Voltage (Approx.) for plate current of 100 μA	—	—2.3	volts

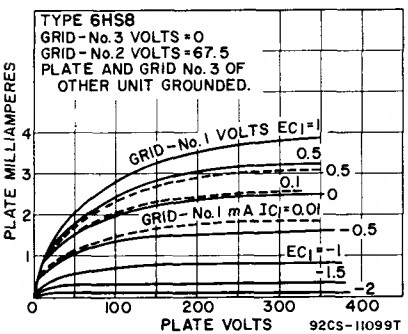
	With Both Units Operating		
Plate Voltage (Each Unit)	100	100	volts
Grid-No.3 Voltage (Each Unit)	—10	0	volts
Grid-No.2 Voltage	67.5	67.5	volts
Grid-No.1 Voltage	▪	▪	volts
Plate Current (Each Unit)	—	2	mA
Grid-No.2 Current	7	4.4	mA
Cathode Current	7.1	8.5	mA

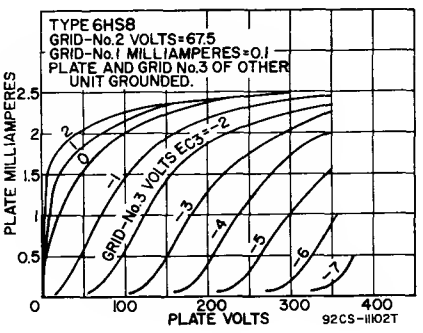
MAXIMUM CIRCUIT VALUES

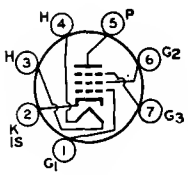
Grid-No.3-Circuit Resistance (Each Unit)	0.5	megohm
Grid-No.1-Circuit Resistance	0.5	megohm

* With plate and grid No.3 of other unit connected to ground.

▪ Adjusted to give grid-No.1 current of 0.1 milliampere.







7EN

SHARP-CUTOFF PENTODE

6HZ6

5HZ6

Miniature type used as sound-detector tube in FM and color and black-and-white television receivers. Tube has two independent control grids. **Outlines section,** 5C; requires miniature 7-contact socket. Type 5HZ6 is identical with type 6HZ6 except for heater ratings.

	5HZ6	6HZ6	
Heater Voltage (ac/dc)	4.75	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 (Approx.):			
Grid No.1 to Plate		0.023	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		8.2	pF
Grid No.1 to Grid No.3		0.09	pF
Grid No.3 to Plate		1.6	pF
Grid No.3 to Cathode, Heater, Grid No.1, Grid No.2, Plate, and Internal Shield		7.2	pF

Class A_1 Amplifier

CHARACTERISTICS

Plate Supply Voltage	150	volts
Grid-No.3 Supply Voltage	0	volts
Grid-No.2 Supply Voltage	100	volts
Grid-No.1 Supply Voltage	0	volts
Cathode-Bias Resistor	180	ohms
Plate Resistance (Approx.)	0.11	megohm
Transconductance, Grid No.1 to Plate	3400	μmhos
Transconductance, Grid No.3 to Plate	600	μmhos
Plate Current	3.2	mA
Grid-No.2 Current	3.2	mA
Grid-No.3 Supply Voltage (Approx.) for plate current of 20 μA	—7	volts
Grid-No.1 Supply Voltage (Approx.) for plate current of 20 μA	—4.5	volts

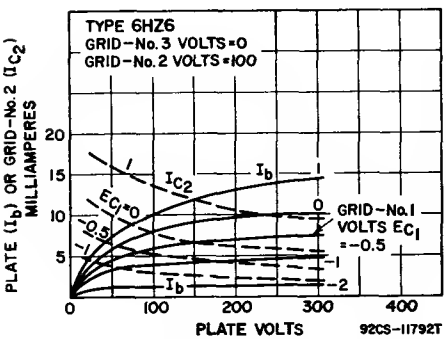
FM Sound Detector

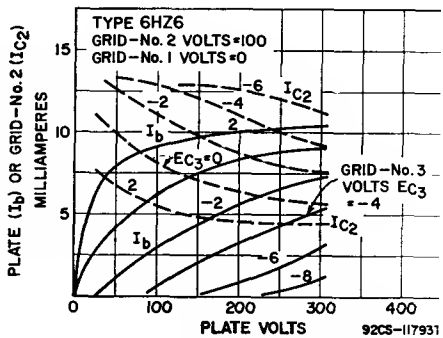
MAXIMUM RATINGS (Design-Maximum Values)

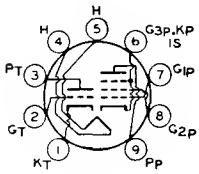
Plate Voltage	300	volts
Grid-No.3 (Control-Grid) Voltage:		
Negative value (dc and peak ac)	100	volts
Positive value (dc and peak ac)	25	volts
Grid-No.2 (Screen-Grid) Supply Voltage	300	volts
Grid-No.2 Voltage	See curve page 98	
Grid-No.1 (Control-Grid) Voltage:		
Negative-bias value	50	volts
Positive-bias value	0	volts
Plate Dissipation	1.7	watts
Grid-No.3 Input	0.1	watt
Grid-No.2 Input:		
For grid-No.2 voltages up to 150 volts	1	watt
For grid-No.2 voltages between 150 and 300 volts	See curve page 98	

MAXIMUM CIRCUIT VALUES

Grid-No.3-Circuit Resistance	0.68	megohm
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.22	megohm
For cathode-bias operation	0.47	megohm







9DX

HIGH-MU TRIODE—SHARP-CUTOFF PENTODE **6HZ8**

Miniature type used in television receiver applications. The triode unit is used as a voltage amplifier or sync separator, and the pentode unit as a video amplifier. **Outlines section,** 8E; requires miniature 9-contact socket. **Heater:** volts (ac/dc), 6.3; amperes, 1.125; maximum heater-cathode volts, ±200 peak, 100 average.

Class A_1 Amplifier

	Triode Unit	Pentode Unit	
MAXIMUM RATINGS (Design-Maximum Values)			
Plate Voltage	300	300	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	1	8	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	2	watts
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 98	
CHARACTERISTICS			
Plate Voltage	200	60 250	volts
Grid-No.2 Supply Voltage	—	170 170	volts
Grid-No.1 Voltage	—2	0 —	volts
Cathode-Bias Resistor	—	— 100	ohms
Amplification Factor	70	— —	
Plate Resistance (Approx.)	—	— 0.14	megohm
Transconductance	4000	— 12600	μmhos
Plate Current	3.5	90▪ 29	mA
Grid-No.2 Current	—	22.5▪ 6	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μA	—5	— —11.5	volts
MAXIMUM CIRCUIT VALUES			
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5	0.25	megohm
For cathode-bias operation	1	1	megohm

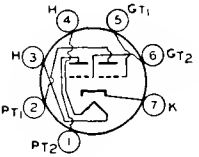
▪ This value can he measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not he exceeded.

Refer to chart at end of section. **6J5 6J5GT**

Refer to chart at end of section. **6J6**

MEDIUM-MU TWIN TRIODE **6J6A**

5J6



7BF

Miniature type used as combined rf power amplifier and oscillator or as twin af amplifier. With push-pull arrangement of the grids and the plates in parallel, this type can also be used as a mixer at frequencies as high as 600 MHz. **Outlines section,** 5C; requires miniature 7-contact socket. Type 5J6 is identical with type 6J6A except for heater ratings.

	5J6	6J6A	
Heater Voltage (ac/dc)	4.7	6.3	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	11	seconds
Peak Heater-Cathode Voltage	±100 max	±100 max	volts
Direct Interelectrode Capacitances (Each Unit, Approx.):	**Unshielded**	**Shielded**	
Grid to Plate	1.6	1.6	pF
Grid to Cathode and Heater	2.2	2.6	pF
Plate to Cathode and Heater (Unit No.1)	0.4	1.6	pF
Plate to Cathode and Heater (Unit No.2)	0.4	1	pF