Direct Interelectrode Capacitances (Approx.):°	Unit No.1	Unit No.2	
Grid to Plate	2.8	2.8	pF
Grid to Cathode and Heater	3	3.4	pF
Plate to Cathode and Heater	3.8	3.2	pF

° With external shield connected to cathode.

Class A_1 Amplifier

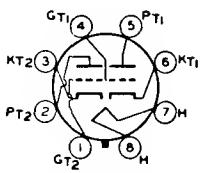
MAXIMUM RATINGS (Design-Center Values)		
Plate Voltage	300	volts
Grid Voltage, Positive-bias value	0	volts
Plate Dissipation	1	watt
CHARACTERISTICS		
Plate Voltage	250	volts
Grid Voltage	—2	volts
Amplification Factor	70	
Plate Resistance (Approx.)	44000	ohms
Transconductance	1600	μmhos
Plate Current	2.3	mA

6SN7GT
6SN7GTA

Refer to chart at end of section.

6SN7GTB MEDIUM-MU TWIN TRIODE

12SN7GTA



8BD

Glass octal type used as combined vertical oscillator and vertical-deflection amplifier, and as horizontal-deflection oscillator, in color and black-and-white television receivers. Each unit may also be used in multivibrator or resistance-coupled amplifier circuits in radio equipment. **Outlines section, 13D;** requires octal socket. Except for the common heater, each triode unit is independent of the other. For typical operation as resistance-coupled amplifier, refer to **Resistance-Coupled Amplifier** section. Type 12SN7GTA is identical with type 6SN7GTB except for heater ratings.

	6SN7GTB	12SN7GTA	
Heater Voltage (ac/dc)	6.3	12.6	volts
Heater Current	0.6	0.3	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):	Unit No.1	Unit No.2	
Grid to Plate	4.0	3.8	pF
Grid to Cathode and Heater	2.2	2.6	pF
Plate to Cathode and Heater	0.7	0.7	pF

Class A_1 Amplifier (Each Unit)

MAXIMUM RATINGS (Design-Center Values)			
Plate Voltage		450	volts
Cathode Current		20	mA
Plate Dissipation:			
For either plate		5	watts
For both plates with both units operating		7.5	watts
CHARACTERISTICS			
Plate Voltage	90	250	volts
Grid Voltage	0	—8	volts
Amplification Factor	20	20	
Plate Resistance (Approx.)	6700	7700	ohms
Transconductance	3000	2600	μmhos
Plate Current	10	9	mA
Plate Current for grid voltage of —12.5 volts	—	1.3	mA
Grid Voltage (Approx.) for plate current of 10 μA	—7	—18	volts
MAXIMUM CIRCUIT VALUE			
Grid-Circuit Resistance, for fixed-bias operation		1	megohm

Oscillator (Each Unit)

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

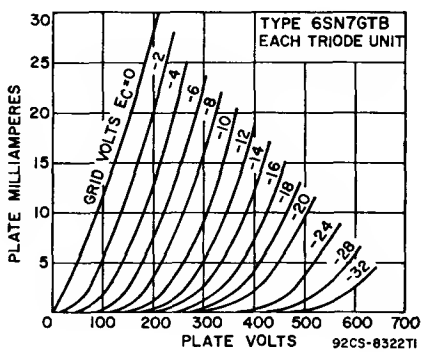
MAXIMUM RATINGS (Design-Center Values)	Vertical-Deflection Oscillator	Horizontal-Deflection Oscillator	
DC Plate Voltage	450	450	volts
Peak Negative-Pulse Grid Voltage	400	600	volts
Peak Cathode Current	70	300	mA
Average Cathode Current	20	20	mA
Plate Dissipation:			
For either plate	5	5	watts
For both plates with both units operating	7.5	7.5	watts
MAXIMUM CIRCUIT VALUES			
Grid-Circuit Resistance	2.2	2.2	megohms

Vertical Deflection Amplifier (Each Unit)

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

MAXIMUM RATINGS (Design-Center Values)		
DC Plate Voltage	450	volts
Peak Positive-Pulse Plate Voltage# (Absolute maximum)	1500▪	volts
Peak Negative-Pulse Grid Voltage	250	volts
Peak Cathode Current	70	mA
Average Cathode Current	20	mA
Plate Dissipation:		
For either plate	5	watts
For both plates with both units operating	7.5	watts
MAXIMUM CIRCUIT VALUE		
Grid-Circuit Resistance, for cathode-bias operation	2.2	megohms

Pulse duration must not exceed 15% of a vertical cycle (2.5 milliseconds).
▪ Under no circumstances should this absolute value be exceeded.

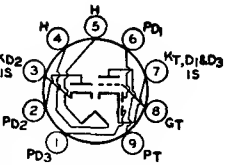


Refer to chart at end of section.	**6SQ7 6SQ7GT**
Refer to chart at end of section.	**6SR7**
Refer to chart at end of section.	**6SS7**
Refer to chart at end of section.	**6ST7**
Refer to chart at end of section.	**6SZ7**
Refer to chart at end of section.	**6T4**
Refer to chart at end of section.	**6T7G**
Refer to chart at end of section.	**6T8**

6T8A

5T8

TRIPLE DIODE—HIGH-MU TRIODE



9E

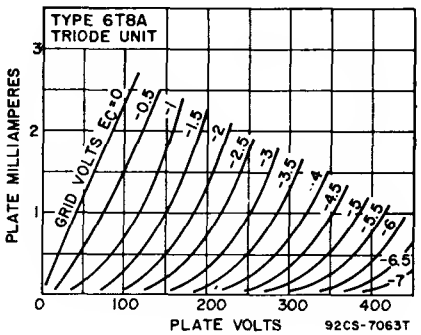
Miniature type used as combined audio amplifier, AM detector, and FM detector in AM/FM radio receivers. Diode unit No.1 is used for AM detection, and diode units No.2 and No.3 are used for FM detection. Outlines section, 6B; requires miniature 9-contact socket. For typical operation as resistance-coupled amplifier, refer to **Resistance-Coupled Amplifier** section. Type 5T8 is identical with type 6T8A except for heater ratings.

	5T8	6T8A	
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	±100 max	volts
Average value	100 max	—	volts
Direct Interelectrode Capacitances:	Unshielded	Shielded	
Triode Unit:			
Grid to Plate	1.7	1.7	pF
Grid to Cathode, Internal Shield (pin 7), and Heater	1.6	1.7	pF
Plate to Cathode, Internal Shield (pin 7), and Heater	1.2	2.4	pF
Diode Units:			
Diode-No.1 Plate to Cathode, Internal Shield (pin 7), and Heater	3.8	3.8	pF
Diode-No.2 Plate to Cathode, Internal Shield (pin 3), and Heater	3.8	3.8*	pF
Diode-No.3 Plate to Cathode, Internal Shield (pin 7), and Heater	3.4	3.6	pF
Diode-No.2 Cathode, Internal Shield (pin 3) to All Other Electrodes, and Heater	7.5	8.5•	pF
Triode Grid to any Diode Plate	0.034 max	0.034 max	pF

* With external shield connected to pin 7 except as noted.

• With external shield connected to pin 3.

▪ With external shield connected to pins 4 and 5.



Triode Unit as Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)			
Plate Voltage		330	volts
Grid Voltage, Positive-bias value		0	volts
Plate Dissipation		1.1	watts
CHARACTERISTICS			
Plate Voltage	100	250	volts
Grid Voltage	—1	—3	volts
Amplification Factor	70	70	