

from 10.0 to 15.9 V, and that the maximum ratings provide a safety factor for the wide voltage variations encountered in this type of supply system.

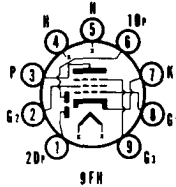
(2) Average contact potential bias developed across specified grid resistor.

DETECTOR and AF AMPLIFIER

12F8

Double Diode and Remote Cutoff Pentode

Construction Miniature T-6½
Base Button 9 Pin, E9-1
Basing 9FH
Outline 6-2
Maximum Diameter 0.875 In.
Maximum Seated Height 1.937 In.
Maximum Overall Height 2.187 In.



ELECTRICAL DATA

HEATER OPERATION

Heater Voltage ⁽¹⁾	12.6 Volts
Heater Current	150 Ma
Maximum Heater-Cathode Voltage	
Heater Negative with Respect to Cathode	30 Volts
Heater Positive with Respect to Cathode	30 Volts

DIRECT INTERELECTRODE CAPACITANCES

Grid to Plate	0.06 Pf
Input: g1 to (g2 + g3 + h + k)	4.5 Pf
Output: p to (g2 + g3 + h + k)	3.0 Pf
Diode to Diode.....	0.3 Pf

RATINGS (Design Center Rating System)

Plate Voltage (Max.)	30 Volts
Grid No. 2 Voltage (Max.)	30 Volts
Positive DC Grid No. 1 Voltage (Max.)	0 Volt
Grid No. 1 Circuit Resistance (Max.)	10 Megohms
Average Diode Current (Max.)	1.0 Ma

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	12.6 Volts
Grid No. 2 Voltage	12.6 Volts
Grid No. 1 Voltage	0 Volt
Plate Current	1.0 Ma
Grid No. 2 Current	0.38 Ma
Transconductance	1000 μmhos
Plate Resistance (Approx.)	0.33 Megohm
Grid No. 1 Voltage (Approx.) for Gm = 10 μmhos.....	-5 Volts
Average Diode Current with 10 Volts DC Applied (Test Condition Only)	2 Ma

NOTE:

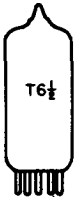
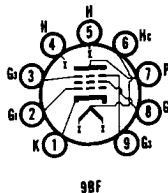
(1) This tube is intended for use in automobile radios operated from a nominal 12 volt battery. Design of the tube is such that the heater will operate satisfactorily over the range of 10.0 volts to 15.9 volts, and that the maximum ratings provide a safety factor for the wide voltage variation encountered with this type of supply.

Color Television Type
VIDEO AMPLIFIER

12GN7A/12HG7

Sharp Cutoff Pentode

Construction Miniature T-6½
Base Button 9 Pin, E9-1
Basing 9BF
Outline 6-3
Maximum Diameter 0.875 In.
Maximum Seated Height 2.375 In.
Maximum Overall Height 2.625 In.



ELECTRICAL DATA**HEATER OPERATION**

	Parallel	Series
Heater Voltage	12.6	6.3 Volts
Heater Current	300	600 Ma
Heater Warm-up Time ⁽¹⁾	—	11 Seconds
Maximum Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
Total DC and Peak		200 Volts
Heater Positive with Respect to Cathode		
DC		100 Volts
Total DC and Peak		200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 1 to Plate	0.12 Pf
Input: g1 to (h + k, g3, IS + g2)	17.5 Pf
Output: p to (h + k, g3, IS + g2)	4.0 Pf

RATINGS (Design Maximum Rating System)

Plate Voltage (Max.)	400 Volts
Grid No. 2 Supply Voltage (Max.)	330 Volts
Grid No. 2 Voltage	See Rating Chart (Gen. Info. Sec.)
Positive Grid No. 1 Voltage (Max.)	0 Volt
Plate Dissipation (Max.)	11.5 Watts
Grid No. 2 Dissipation (Max.)	1.5 Watts
Grid No. 1 Circuit Resistance (Max.)	0.25 Megohm

Control grid to cathode spacing of this type is of such low order of magnitude as to preclude the use of voltage between these elements of more than 50 volts DC or peak AC in commercial tube checkers and shorts indicating devices, particularly where mechanical excitation of the tube is employed.

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	250 Volts
Grid No. 2 Voltage	150 Volts
Grid No. 1 Voltage	0 Volt
Cathode Bias Resistor	56 Ohms
Plate Current	28 Ma
Grid No. 2 Current	6.5 Ma
Transconductance	36,000 μ mhos
Plate Resistance (Approx.)	50,000 Ohms
E _{c1} for I _b = 100 μ a (Approx.)	-5.7 Volts

INSTANTANEOUS PLATE KNEE CHARACTERISTICS⁽²⁾

E_b = 50 V, E_{c2} = 125 V, and E_{c1} = 0 V

I_b = 70 Ma, and I_{c2} = 24 Ma

NOTES:

- (1) Applies to 6.3/600 Ma only.
- (2) Applied for short interval (2 Sec. Max.) so as not to damage tube.

AVERAGE PLATE CHARACTERISTICS