

Maximum Heater Cathode Voltage

RMS, Voltage Between Cathode and Heater (Grounded Cathode Section).....	50 Volts
RMS, Voltage Between Cathode and Heater (Grounded Grid Section).....	50 Volts
Cathode Positive with Respect to Heater (Grounded Grid Section).....	130 Volts

DIRECT INTERELECTRODE CAPACITANCES (Each Section)

	Unshielded	Shielded
Grid to Plate	1.85	1.85 Pf
Plate to Cathode	0.18	0.17 Pf
Heater to Cathode	3.0	3.0 Pf
Plate Section No. 1 to Plate Section No. 2 (Max.) ..	0.040	0.015 Pf
Plate Section No. 2 to Grid Section No. 1 (Max.) ..	0.003	0.003 Pf
Grid Section No. 1 to Cathode Section No. 2 (Max.)	0.002	0.002 Pf

RATINGS (Design Center Rating System) (Each Section)

Plate Supply Voltage ($I_b = 0$ Ma) (Max.).....	550 Volts
Plate Voltage (Max.)	130 Volts
Plate Dissipation (Max.)	1.8 Watts
Cathode Current (Max.).....	22 Ma
Negative Grid Voltage (Max.)	50 Volts
Grid Circuit Resistance (Max.)	1.0 Megohm

CHARACTERISTICS AND TYPICAL OPERATION**Class A1 Amplifier (Each Section)**

Plate Voltage	90 Volts
Grid Voltage	-1.2 Volts
Plate Current	15 Ma
Transconductance	12,500 μ mhos
Amplification Factor	34

Cascode Amplifier⁽²⁾

Supply Voltage.....	180 Volts
Plate Current	15 Ma
Transconductance	12,500 μ mhos
Noise Figure ⁽³⁾	6.5 db
E_c for $g_m = 125 \mu$ a (Approx.).....	-9.0 Volts
Input Voltage for Cross Modulation Factor of 1% at $g_m = 125 \mu$ mhos ...	500 Mv

NOTES:

- (1) Section No. 1 (grounded cathode input section) connects to Pins 6, 7, and 8.
- (2) Section No. 2 (grounded grid output section) connects to Pins 1, 2, and 3.
- (3) Noise figure measurements taken with tube operating in a TV tuner.

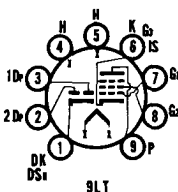
HORIZONTAL PHASE DETECTOR (D) VIDEO AMPLIFIER (P)

6ET7

8ET7

Double Diode and Sharp Cutoff Pentode

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

**ELECTRICAL DATA
HEATER OPERATION**

Heater Voltage.....	8ET7 8.0	6ET7 6.3 Volts
Heater Current	600	750 Ma
Heater Warm-up Time	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)

Pentode Section	
Grid No. 1 to Plate (Max.).....	0.1 Pf
Input: g_1 to ($h + p_k, g_3, i_s + g_2 + d_k, d_{sh}$)	10 Pf

Output: p to (h + Pk, g2, IS + g2 + Dk, Dsh)	4.2 Pf
Diode Section (Each Diode)	
Diode Plate to (h + Dk, Dsh + Pk, g3, IS)	1.5 Pf
Diode Cathode; Diode Shield to (h + Dp + Pk, g3, IS)	7.5 Pf
Coupling	
Pentode Grid No. 1 to Diode Plate (Each Diode) (Max.)	0.005 Pf
Pentode Plate to Diode Plate (Each Diode) (Max.)	0.02 Pf
RATINGS (Design Maximum Rating System)	
Plate Voltage (Max.)	330 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.)	5.0 Watts
Grid No. 2 Dissipation (Max.)	1.1 Watts
Grid No. 1 Circuit Resistance	
Cathode Bias (Max.)	0.25 Megohms
Fixed Bias (Max.)	0.1 Megohm

CHARACTERISTICS AND TYPICAL OPERATION**Pentode—Class A1 Amplifier**

Plate Voltage	200 Volts
Grid No. 2 Voltage	150 Volts
Cathode Bias Resistor	100 Ohms
Plate Current	25 Ma
Grid No. 2 Current	5.5 Ma
Transconductance	11,500 μ mhos
Plate Resistance (Approx.)	60,000 Ohms
Ec1 for Ib = 100 μ a (Approx.)	-10 Volts
Average Diode Current with 10 Volts DC Applied (Each Diode)	1.5 Ma

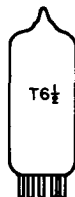
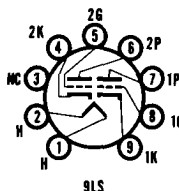
INSTANTANEOUS PLATE KNEE VALUES

Eb = 60 V, Ec2 = 150 V, Ec1 = 0 V;

Ib = 55 Ma and Ic2 = 18 Ma

6EU7**AF AMPLIFIER or
PHASE INVERTER****High Mu Twin Triode**

Construction	Miniature T-6½
Base	Button 9 Pin, E9-1
Basing	9LS
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	6.3 Volts
Heater Current	300 Ma
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)

	Section 1	Section 2
Grid to Plate	1.5	1.5 Pf
Input: g to (h + k)	1.6	1.6 Pf
Output: p to (h + k)	0.2	0.2 Pf
RATINGS (Design Maximum Rating System) (Each Section)		
Plate Voltage (Max.)		330 Volts
Plate Dissipation (Max.)		1.2 Watts
Positive Grid Voltage (Max.)		0 Volt
Negative Grid Voltage (Max.)		55 Volts
CHARACTERISTICS AND TYPICAL OPERATION		
Class A1 Amplifier (Each Section)		
Plate Voltage	100	250 Volts
Grid Voltage	-1	-2 Volts
Plate Current	0.5	1.2 Ma
Transconductance	1250	1600 μ mhos
Amplification Factor	100	100