

## Sharp-Cutoff Pentode

FRAME-GRID CONSTRUCTION

T9 ENVELOPE

9-PIN LARGE-BUTTON NEONOVAL BASE

For Video Output Amplifier Service  
in Color TV Receivers

## Electrical:

Heater Characteristics and Ratings:

	Series	Parallel	
Heater-section arrangement			
Voltage (AC or DC) . . . . .	$12.6 \pm 1.3^a$	$6.3 \pm 0.6$	volts
Current . . . . .	0.260	$0.520^b$	amp
Maximum heater-cathode voltage:			
Heater negative with respect to cathode . . . . .		200	volts
Heater positive with respect to cathode:			
Peak . . . . .		200	volts
DC component . . . . .		100	volts

Direct Interelectrode Capacitances:<sup>c</sup>

Grid No.1 to plate . . . . .	0.15 max.	pf
Input: G1 to (K,G3 + IS,G2,H) . . . . .	14.0	pf
Output: P to (K,G3 + IS,G2,H) . . . . .	4.4	pf

## Mechanical:

Operating Position . . . . .	Any
Type of Cathode . . . . .	Coated Unipotential
Maximum Overall Length . . . . .	2.930"
Maximum Seated Length . . . . .	2.620"
Length, Base Seat to Bulb Top (Excluding tip) . . . . .	2.070" to 2.310"
Diameter . . . . .	1.062" to 1.188"
Dimensional Outline . . . . .	(JEDEC No.9-70)
Bulb . . . . .	T9
Base . . . . .	Large-Button Neonoval 9-Pin (JEDEC No.E9-68)
Basing Designation for BOTTOM VIEW . . . . .	9BF

- Pin 1 - Cathode  
 Pin 2 - Grid No.1  
 Pin 3 - Grid No.3,  
           Internal Shield  
 Pin 4 - Heater  
 Pin 5 - Heater  
 Pin 6 - Heater Tap  
 Pin 7 - Plate  
 Pin 8 - Grid No.2  
 Pin 9 - Grid No.3,  
           Internal Shield

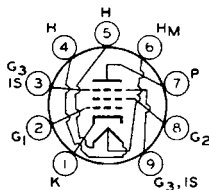
Characteristics, Class A<sub>1</sub> Amplifier:

Plate Supply Voltage . . . . .	300	volts
Grid No.3 . . . . .	Connected to cathode at socket	
Grid-No.2 Supply Voltage . . . . .	135	volts
Grid No.1 . . . . .	Connected to negative end of cathode resistor	
Cathode Resistor . . . . .	47	ohms
Plate Resistance (Approx.) . . . . .	60000	ohms
Transconductance . . . . .	32000	$\mu$ mhos
Plate Current . . . . .	31	ma



# 12HG7

Grid-No.2 Current . . . . .	4.8	ma
Grid-No.1 Voltage (Approx.) for plate $\mu = 100$ . . . . .	-4.5	volts

## CLASS A<sub>1</sub> AMPLIFIER

### Maximum Ratings, Design-Maximum Values:

Plate Voltage . . . . .	400	volts
Grid-No.2 (Screen-Grid) Supply Voltage. . . . .	330	volts
Grid-No.2 Voltage . . . . .	.See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
Grid-No.1 (Control-Grid) Voltage:		
Positive-bias value . . . . .	0	volts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts. . . . .	1	watt
For grid-No.2 voltages between 165 and 330 volts . . . . .	.See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
Plate Dissipation . . . . .	10	watts

### Maximum Circuit Values:

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

<sup>a</sup> At heater amperes = 0.260.

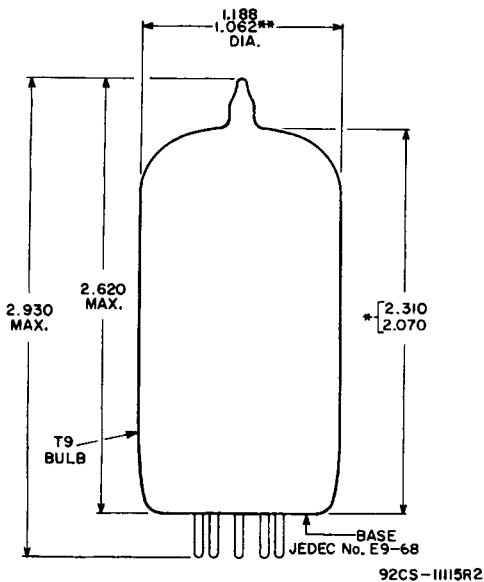
<sup>b</sup> At heater volts = 6.3.

<sup>c</sup> Without external shield.



## DIMENSIONAL OUTLINE

JEDEC No. 9-70

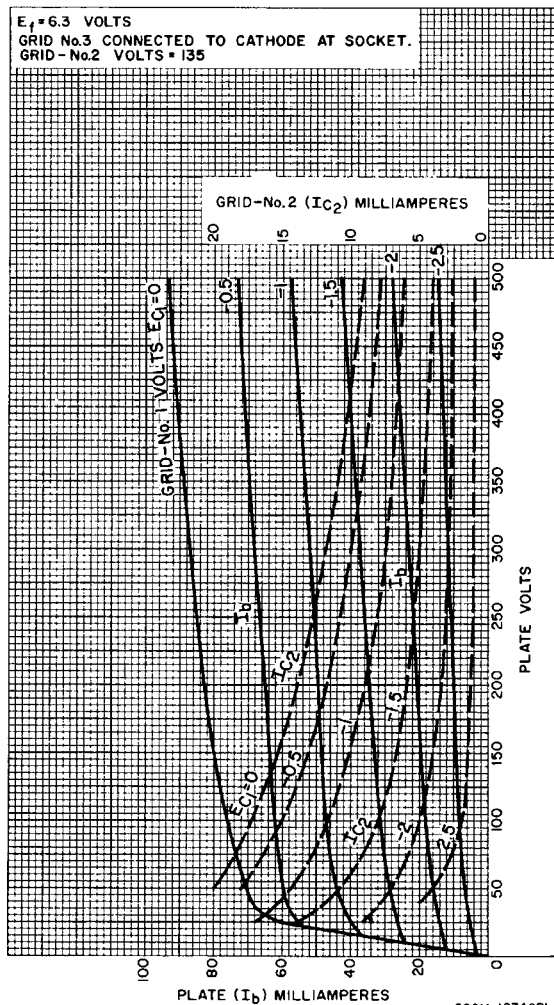


DIMENSIONS IN INCHES

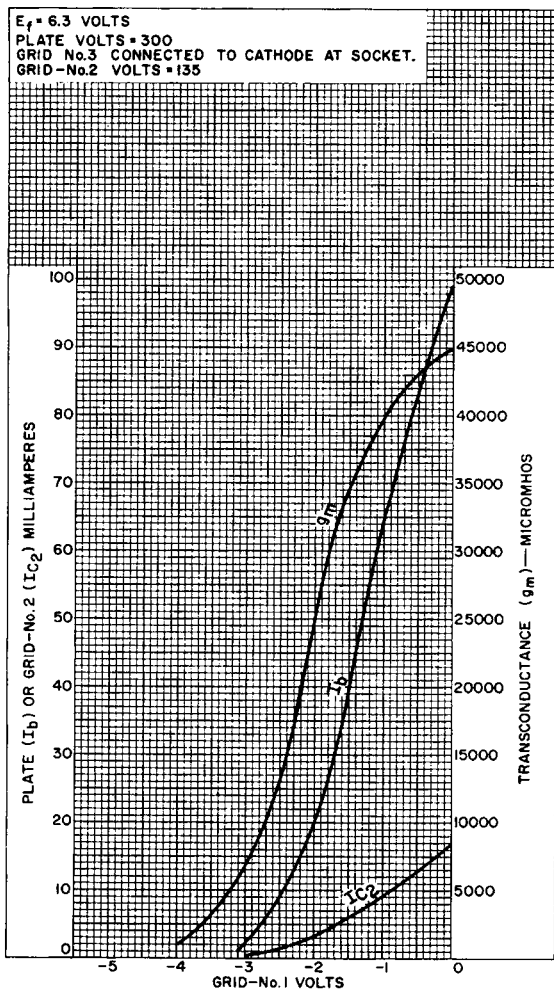
- \*\* Applies in zone starting 0.375" from base seat.
- \* Measured from base seat to bulb-top line as determined by a ring gauge of 0.600" inside diameter.



## AVERAGE CHARACTERISTICS



## AVERAGE CHARACTERISTICS



92CM-12747R1

