

## Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

FRAME-GRID CONSTRUCTION

$g_m = 30000 \mu\text{mho}$

For Video-Output Amplifier Service in Color-TV Receivers

### ELECTRICAL CHARACTERISTICS

Bogey Values<sup>a</sup>

		Series	Parallel	
Heater Voltage (AC or DC) . . .	$E_h$	11.0	5.50	V
Heater Current . . . . .	$I_h$	300	600	mA
<b>Direct Interelectrode Capacitances</b>				
Without external shields				
Grid No.1 to plate . . . . .	$C_{g1-p}$		0.15 max	pF
Input: G1 to (K, G3 + IS, G2, H) . . . . .	$C_i$		14	pF
Output: P to (K, G3 + IS, G2, H) . . . . .	$C_o$		5.0	pF
For the following characteristics, see Conditions				
Plate Resistance (Approx.) . . .	$r_p$		40	k $\Omega$
Transconductance . . . . .	$g_m$		30000	$\mu\text{mho}$
DC Plate Current . . . . .	$I_b$		30	mA
DC Grid-No.2 Current . . . . .	$I_{c2}$		5.2	mA
Cutoff DC Grid-No.1 Voltage . .	$E_{c1(c0)}$		-4.5	V
Plate $\mu\text{A} = 100$				

### Conditions

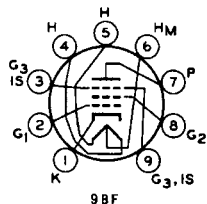
		Bogey Value	V
Heater Voltage . . . . .	$E_h$		V
DC Plate Supply Voltage . . . .	$E_{bb}$	200	V
DC Grid-No.3 Voltage . . . . .	$E_{c3}$	0	V
DC Grid-No.2 Supply Voltage . .	$E_{cc2}$	135	V
DC Grid-No.1 Supply Voltage . .	$E_{cc1}$	0	V
Cathode Resistor . . . . .	$R_k$	47	$\Omega$

### MECHANICAL CHARACTERISTICS

Operating Position . . . . .	Any
Type of Cathode . . . . .	Coated Unipotential
Maximum Overall Length . . . . .	2.625 in
Maximum Seated Length . . . . .	2.375 in
Maximum Diameter . . . . .	0.875 in
Dimensional Outline (JEDEC 6-3) . . . . .	See General Section
Envelope . . . . .	JEDEC T6-1/2
Base . . . . .	Small-Button Noval 9-Pin (JEDEC E9-1)

### TERMINAL DIAGRAM (Bottom View)

- 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



## DESIGN-MAXIMUM RATINGS

*For operation as a Class A<sub>1</sub> Amplifier Tube*

DC Plate Voltage . . . . .	$E_b$	330	V
DC Grid-No.2 (Screen-Grid) Supply Voltage . . . . .	$E_{cc2}$	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
DC Grid-No.1 (Control-Grid) Voltage			
Positive-bias value . . . . .	$E_{c1}$	0	V
Heater-Cathode Voltage			
Peak . . . . .	$e_{hkm}$	±200	V
Average <sup>b</sup> . . . . .	$E_{hk(av)}$	100	V
Heater Voltage (AC or DC) . . .	$E_f$		
Series . . . . .	-	9.9 min	12.1 max V
Parallel . . . . .	-	4.95 min	6.05 max V
Grid-No.2 Input . . . . .	$P_{g2}$		
For $E_{c2} \leq 165$ V . . . . .	-		1 W
For $E_{c2} > 165$ V and $\leq 330$ V	-	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
Plate Dissipation . . . . .	$P_b$	7	W

## MAXIMUM CIRCUIT VALUES

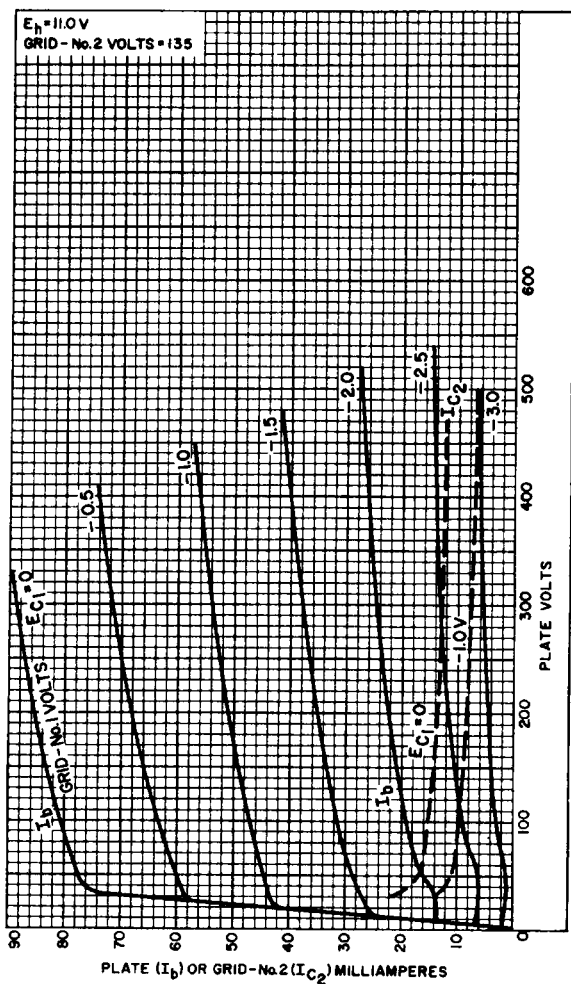
Grid-No.1 Circuit Resistance	$R_{g1(ckt)}$		
For fixed-bias operation. . . . .	-	0.1	MΩ
For cathode-bias operation. . . . .	-	0.25	MΩ

<sup>a</sup> Unless otherwise specified.

<sup>b</sup> Measured with a dc meter.



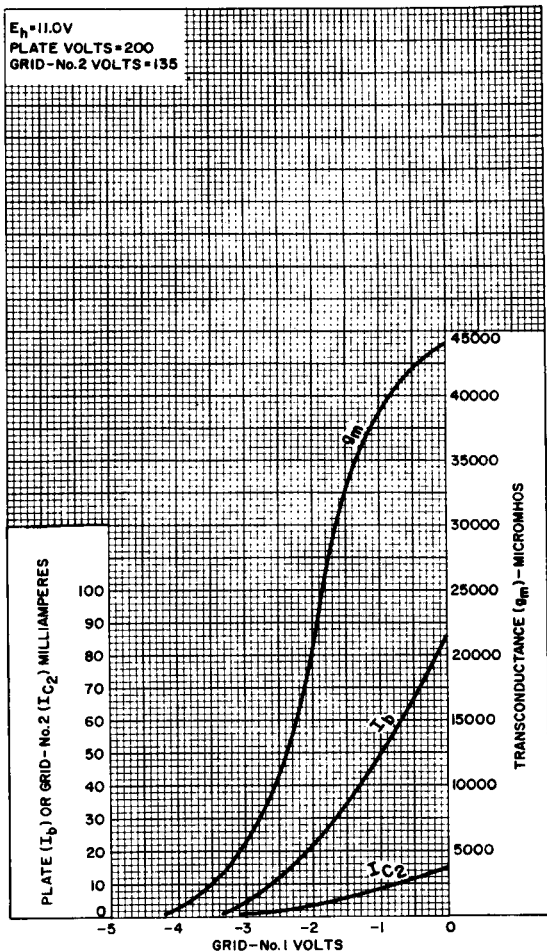
## Typical Characteristics



92CM-13833



## Typical Characteristics



92CM-13032

