

# 408A

## Sharp-Cutoff Pentode

### 7-PIN MINIATURE TYPE

#### GENERAL DATA

#### Electrical:

##### Heater Characteristics and Ratings:

Voltage (AC or DC) . . . . . 20.0 ± 1.0 volts  
 Current at heater volts = 20.0 . . . . . 0.050 amp

##### Peak heater-cathode voltage:

Heater negative with respect to cathode . . . . . 100 max. volts  
 Heater positive with respect to cathode . . . . . 100 max. volts

##### Direct Interelectrode Capacitances:<sup>a</sup>

Grid No.1 to plate . . . . . 0.01 pf  
 Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . . 4.0 pf  
 Plate to cathode & grid No.3 & internal shield; grid No.2, and heater . . . . . 2.8 pf

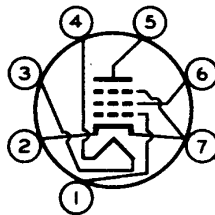
##### Characteristics, Class A<sub>1</sub> Amplifier:

Plate Supply Voltage . . . . . 120 volts  
 Grid-No.2 Supply Voltage . . . . . 120 volts  
 Cathode Resistor<sup>b</sup> . . . . . 200 ohms  
 Plate Resistance (Approx.) . . . . . 0.34 megohm  
 Transconductance . . . . . 5000  $\mu$ mhos  
 Plate Current . . . . . 7 ma  
 Grid-No.2 Current . . . . . 2.2 ma  
 Grid-No.1 Voltage for maximum plate  $\mu$ a = 200 . . . . . -10 volts

#### Mechanical:

Operating Position . . . . . Any  
 Type of Cathode . . . . . Coated Unipotential  
 Maximum Overall Length . . . . . 1-3/4"  
 Maximum Seated Length . . . . . 1-1/2"  
 Length, Base Seat to Bulb Top (Excluding tip) . . . . . 1-1/8" ± 3/32"  
 Diameter . . . . . 0.650" to 0.750"  
 Dimensional Outline . . . . . See *General Section*  
 Bulb . . . . . T6-1/2  
 Base . . . . . Small-Button Miniature 7-Pin (JEDEC No.E7-1)  
 Basing Designation for BOTTOM VIEW . . . . . 7BD

Pin 1 - Grid No.1  
 Pin 2 - Cathode,  
           Grid No.3  
 Pin 3 - Heater  
 Pin 4 - Heater



Pin 5 - Plate  
 Pin 6 - Grid No.2  
 Pin 7 - Cathode,  
           Grid No.3



# 408A

## AMPLIFIER — Class A<sub>1</sub>

### Maximum Ratings, Absolute-Maximum Values:

PLATE VOLTAGE . . . . .	180 max. volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE. . .	180 max. 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 max. volts
GRID-No. 2 INPUT:	
For grid-No.2 voltages	
up to 90 volts. . . . .	0.5 max. watt
For grid-No.2 voltages be-	
tween 90 and 180 volts. .See <i>Grid-No.2 Input Rating Chart</i>	at front of Receiving Tube Section
PLATE DISSIPATION . . . . .	1.7 max. watts

<sup>a</sup> with external shield JEDEC No.316 connected to cathode.

<sup>b</sup> Fixed-bias operation is not recommended.

