



# TECHNICAL DATA

## Electronic Tubes

### 8081

### TRIODE

The 8081 is a high- $\mu$  triode of ceramic-and-metal planar construction primarily intended for low-level audio-frequency amplification.

#### GENERAL

#### Electrical

Cathode - Coated Unipotential

#### Heater Characteristics and Ratings

Heater Voltage, AC. or DC+

6.3±0.3 Volts

Heater Current‡

0.22 Amperes

#### Direct Interelectrode Capacitances§

Grid to Plate: (g to p)

1.0 pf

Grid to Heater and Cathode: g to (h + k)

1.5 pf

Plate to Heater and Cathode: p to (h + k)

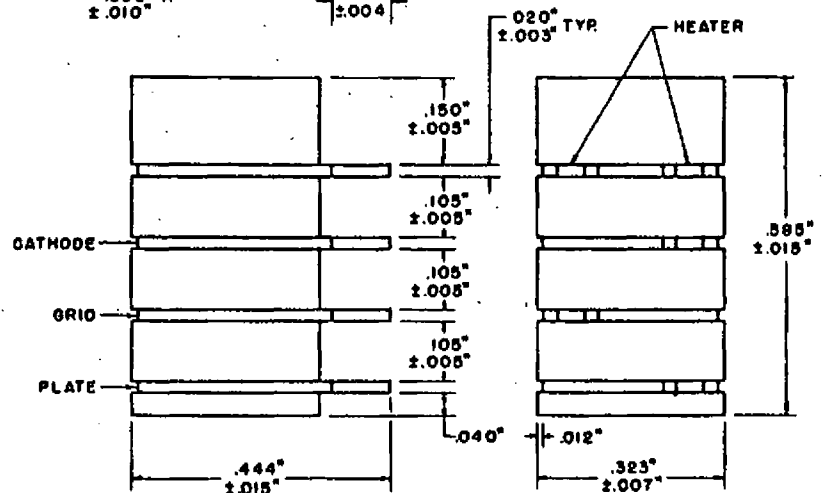
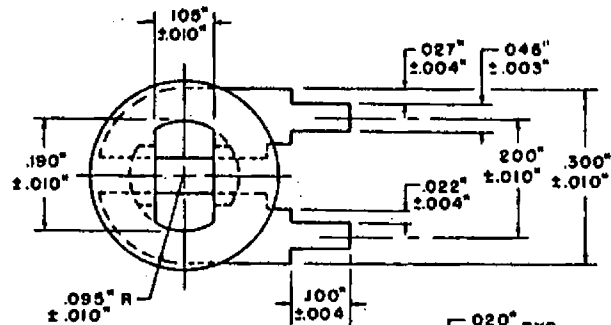
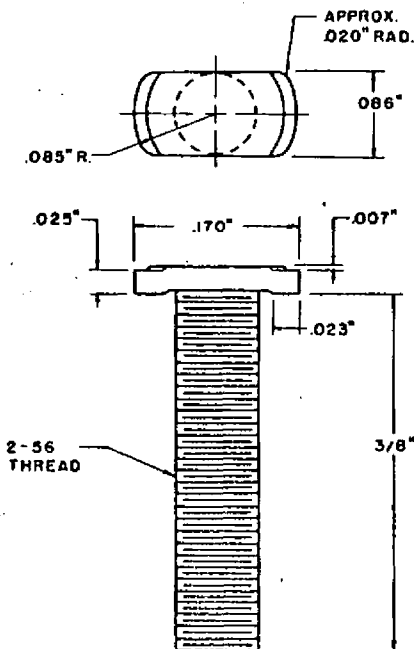
0.03 pf

Heater to Cathode: (h to k)

1.5 pf

#### Mechanical

Mounting Position - Any†



MAXIMUM RATINGS

## Absolute-Maximum Values

DC Plate Voltage	275	Volts
Peak Plate Voltage	400	Volts
Positive Peak and DC Grid Voltage	0	Volts
Negative Peak and DC Grid Voltage	50	Volts
Plate Dissipation	0.85	Watts
DC Cathode Current	3.8	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	50	Volts
Heater Negative with Respect to Cathode	50	Volts
Grid Circuit Resistance, with Fixed Bias $\Delta$	0.2	Megohms
Envelope Temperature at Hottest Point $\ddagger$	250	C

Absolute-Maximum ratings are limiting values of operating and environmental conditions applicable to any electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making no allowance for equipment variations, environmental variations, and the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

The equipment manufacturer should design so that initially and throughout life no absolute-maximum value for the intended service is exceeded with any tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

## Average Characteristics

Plate Voltage	150	Volts
Cathode-Bias Resistor	1000	Ohms
Amplification Factor	80	
Plate Resistance, approximate	57000	Ohms
Transconductance	1400	Micromhos
Plate Current	0.95	Milliamperes
Grid Voltage, approximate		
I <sub>b</sub> = 10 Microamperes, E <sub>b</sub> = 250 Volts	-4.7	Volts

+ The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

$\ddagger$  Heater current of a bogey tube at E<sub>f</sub> = 6.3 volts.

§ Without external shield.

- ¶ One method of mounting the 8081 is to use a stainless-steel "T" bolt (see drawing) to attach the mounting base of the tube to a chassis or circuit board. The "T" bolt should be inserted in the slot in the base of the tube, turned 90 degrees, and attached to the chassis or circuit board with a 2-56 nut and lock washer. Torque used to tighten the nut should not exceed 3 inch-pounds.
- Δ If resistance is used in the cathode or plate circuits, the grid-circuit resistance may be as high as  $(200000 + 500 RK + 10RL)$  ohms, where RK is the cathode-bias resistance in ohms, and RL is the DC plate load resistance in ohms.
- # Operation below the rated maximum envelope temperature is recommended for applications requiring the longest possible tube life.

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