

# FEDERAL POWER TRIODE

## Type F-8C25

### 5 Kilowatts Plate Dissipation



#### GENERAL DATA

##### DESCRIPTION:

Federal's Type F-8C25 is a three-electrode tube designed for use as a modulator, its electrical characteristics making it particularly suitable to Class AB modulator circuits. The anode is forced air-cooled, capable of dissipating 5 kilowatts. The cathode is a thoriated tungsten filament. Maximum ratings apply to audio-frequency use only.

##### Electrical:

|                                              |                     |
|----------------------------------------------|---------------------|
| ► Filament Voltage                           | 7.0 Volts           |
| ► Filament Current                           | 110 Amperes         |
| ► Filament Starting Current                  | 165 Amps. Max.      |
| ► Filament Cold Resistance                   | .010 Ohms           |
| ► Amplification Factor,                      |                     |
| $E_c = -200 \text{ V}; I_b = 1.0 \text{ A.}$ | 6.00                |
| ► Interelectrode Capacitances                |                     |
| Grid-Plate                                   | 42 $\mu\mu\text{f}$ |
| Grid-Filament                                | 43 $\mu\mu\text{f}$ |
| Plate-Filament                               | 12 $\mu\mu\text{f}$ |

##### Mechanical:

|                              |     |         |      |
|------------------------------|-----|---------|------|
| ► Mounting Position—         |     |         |      |
| Vertical, Anode Down         |     |         |      |
| ► Type of Cooling—Forced Air |     |         |      |
| Maximum Incoming             |     |         |      |
| Air Temperature              |     | 45° C   |      |
| ► Required Air Flow on Anode |     |         |      |
| Plate Dissipation            |     |         |      |
| (Kilowatts)                  | 5   | 4       | 3    |
| Air Flow—Cubic               |     |         |      |
| Feet per Min.                | 300 | 250     | 175  |
| Pressure—Inches              |     |         |      |
| Water                        | 0.7 | 0.5     | 0.25 |
| ► Maximum Glass              |     |         |      |
| Temperature                  |     | 150° C  |      |
| ► Net Weight,                |     |         |      |
| approximate                  |     | 19 Lbs. |      |



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When used as a modulator for 5 or 10 kilowatt transmitters, Federal's F-8C25 brings lower filament power and longer service life . . . due to the use of thoriated filaments.

#### Maximum Ratings and Typical Operating Conditions

##### AUDIO-FREQUENCY POWER AMPLIFIER AND MODULATOR—CLASS AB<sub>1</sub>

###### Maximum Ratings, Absolute Values

|                                  |              |
|----------------------------------|--------------|
| DC Plate Voltage                 | 5,000 Volts  |
| Maximum Signal DC Plate Current† | 2.5 Amperes  |
| Maximum Signal Plate Input†      | 10 Kilowatts |
| Plate Dissipation†               | 5 Kilowatts  |

###### Typical Operation

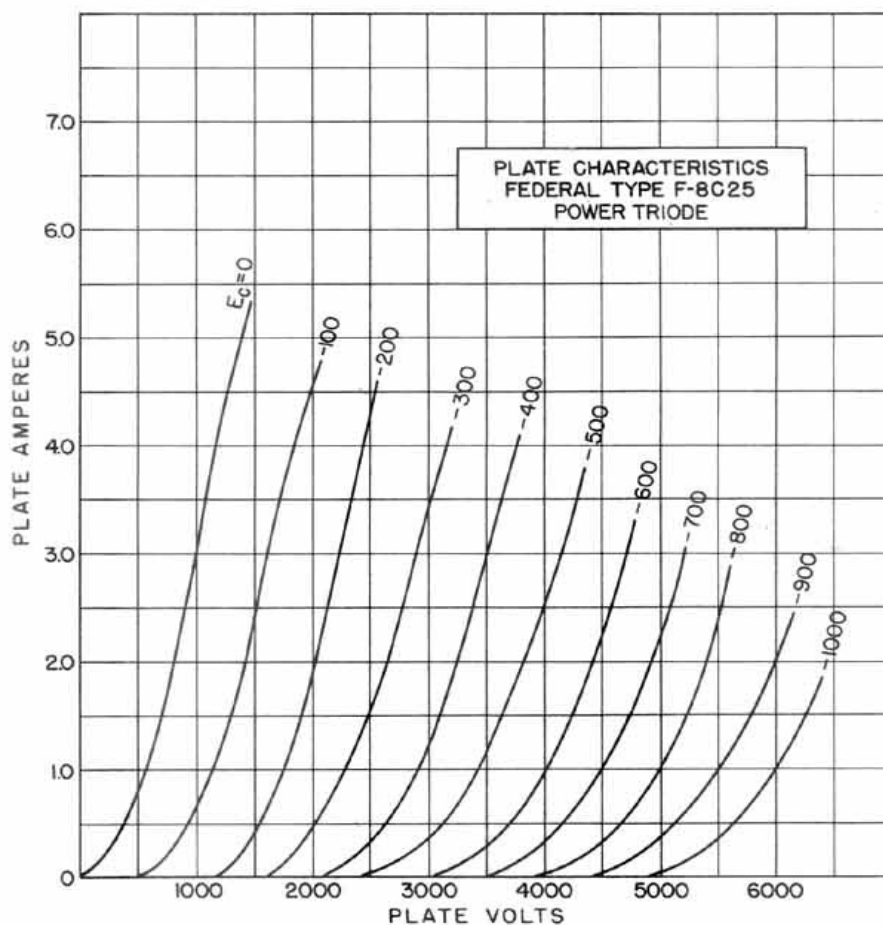
(Unless otherwise specified, values are for two tubes)

|                  |       |       |             |
|------------------|-------|-------|-------------|
| DC Plate Voltage | 3,750 | 3,750 | 5,000 Volts |
| DC Grid Voltage  | —650  | —650  | —900 Volts  |

†Averaged over any audio-frequency cycle of sine-wave form.

###### Peak A-F Grid to

|                                           |       |       |               |
|-------------------------------------------|-------|-------|---------------|
| Grid Voltage                              | 1,260 | 1,260 | 1,760 Volts   |
| Zero-Signal DC Plate Current              | 0.6   | 0.6   | 0.8 Ampere    |
| Maximum Signal DC Plate Current           | 1.75  | 2.80  | 2.54 Amperes  |
| Effective Load Resistance, Plate to Plate | 4,000 | 2,250 | 3,700 Ohms    |
| Maximum Signal Driving Power              | 0     | 0     | 0 Watts       |
| Maximum Signal Power Output               | 3.75  | 5.4   | 7.4 Kilowatts |



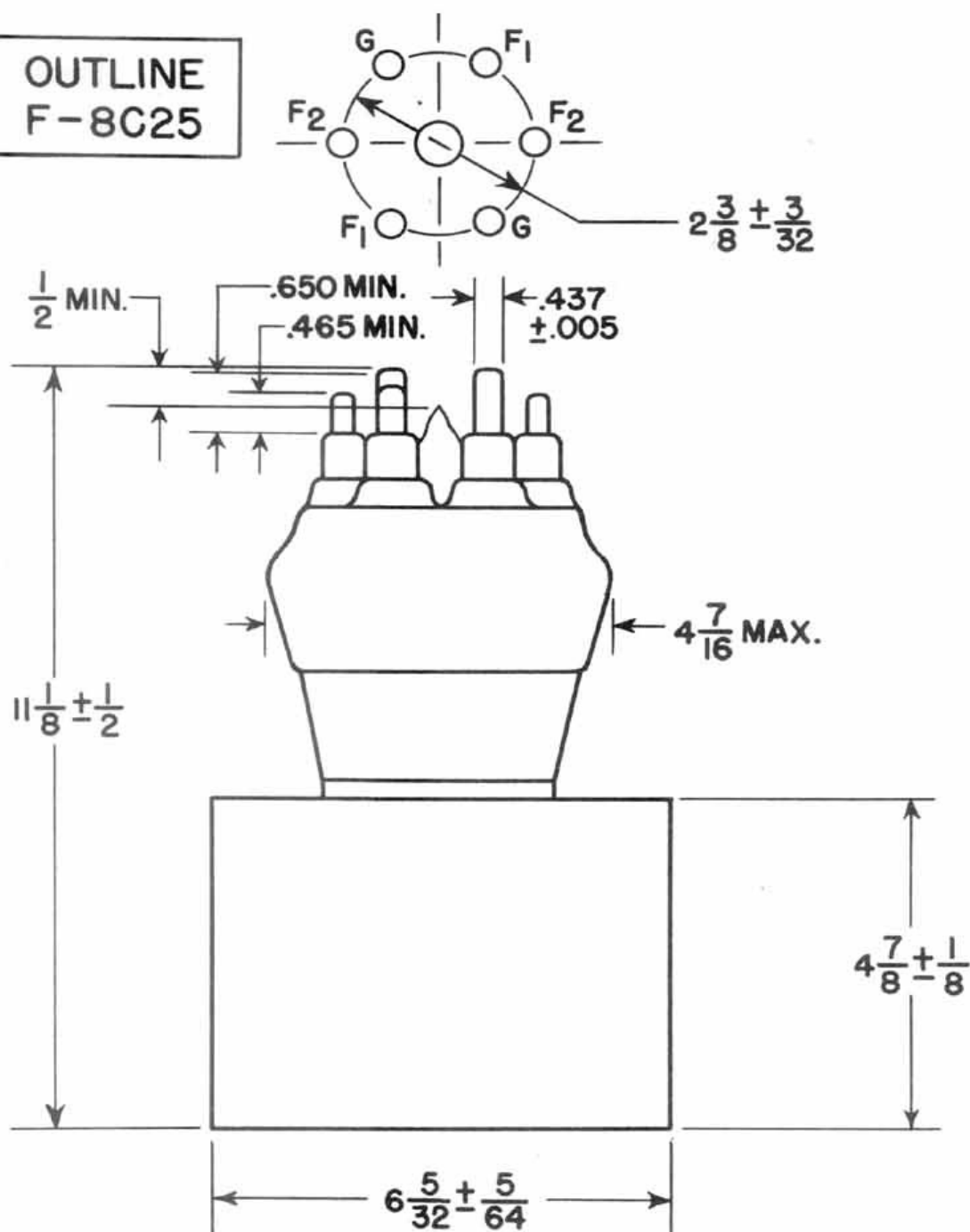
The unusually heavy construction of Federal's Type F-8C25 anode wall assures better heat distribution, and better performance.

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## OUTLINE F-8C25



*Federal Telephone and Radio Corporation*

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