



# THYRATRON

## DESCRIPTION

The FG-57 is a negative-control mercury-vapor tube for use where it is desired to actuate the tube with a change in negative grid voltage. It requires

relatively little grid power and is suitable for use in relay circuits where current flow is desired in the absence of grid excitation.

## TECHNICAL INFORMATION

*These data are for reference only. For design information refer to specifications.*

### GENERAL CHARACTERISTICS

Number of electrodes.....3

#### Electrical

Cathode—Indirectly heated type

Voltage.....5.0 volts  
Current, approx.....4.5 amperes  
Heating time, typical.....5 minutes  
Peak voltage drop, typical.....16 volts

Approximate control characteristics

|                                        |    |       |                      |
|----------------------------------------|----|-------|----------------------|
| Anode voltage.....                     | 60 | 100   | 1000 volts           |
| Grid voltage.....                      | 0  | -1.75 | -6.5 volts           |
| Anode to grid capacitance, approx..... |    |       | 4.4 micromicrofarads |
| Ionization time, approx.....           |    |       | 10 microseconds      |
| Deionization time, approx.....         |    |       | 1000 microseconds    |

  
*Electronic*  
TUBE

**GENERAL  ELECTRIC**

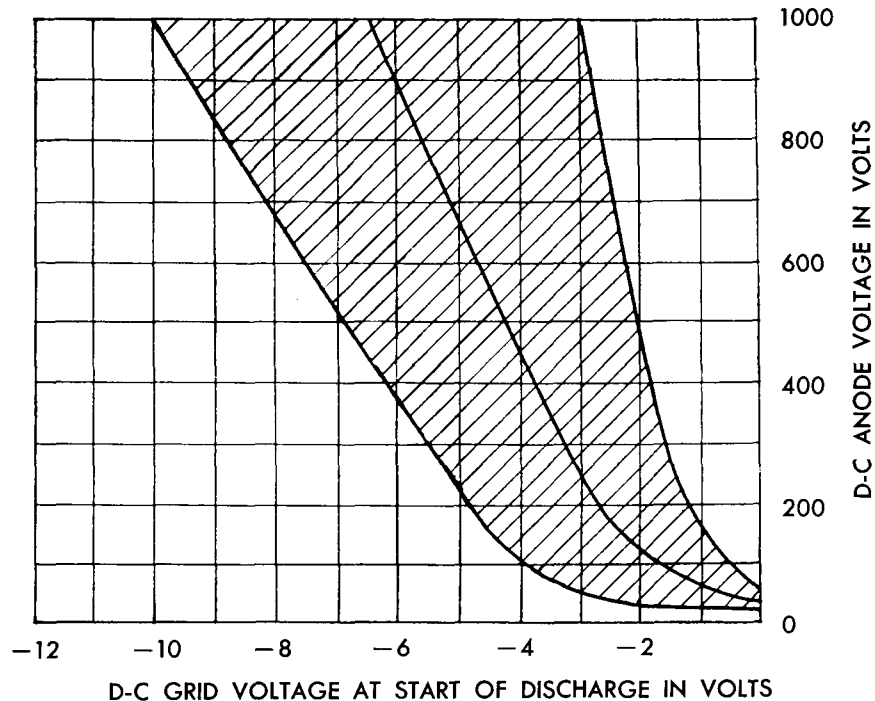
## TECHNICAL INFORMATION (CONT'D)

### Mechanical

|                              |                     |
|------------------------------|---------------------|
| Net weight, approx.....      | 4 ounces            |
| Shipping weight, approx..... | 7 pounds            |
| Mounting position.....       | vertical, base down |

### MAXIMUM RATINGS

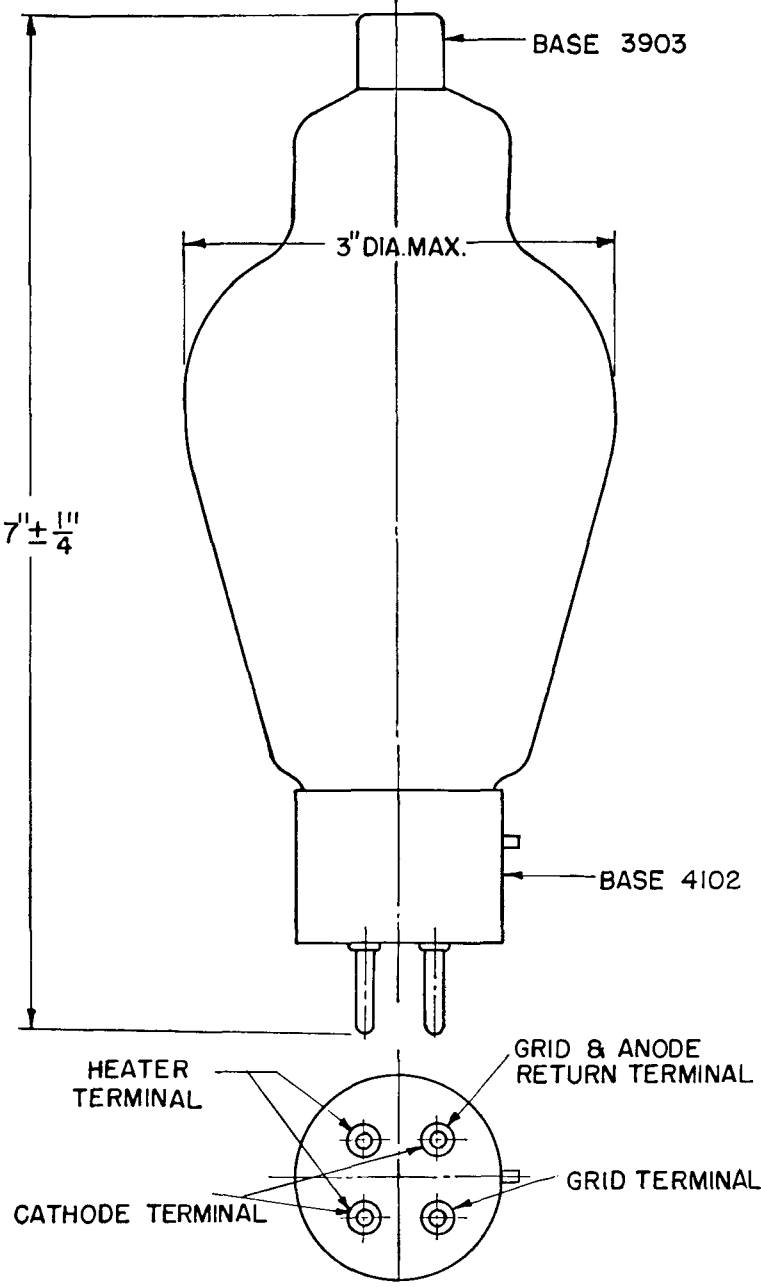
|                                                 |                       |
|-------------------------------------------------|-----------------------|
| Maximum peak anode voltage                      |                       |
| Inverse.....                                    | 1000 volts            |
| Forward.....                                    | 1000 volts            |
| Maximum negative grid voltage                   |                       |
| Before conduction.....                          | 500 volts             |
| During conduction.....                          | 10 volts              |
| Maximum anode current                           |                       |
| Instantaneous, 25 cycles and above.....         | 15.0 amperes          |
| Instantaneous, below 25 cycles.....             | 5.0 amperes           |
| Average.....                                    | 2.5 amperes           |
| Surge, for design only.....                     | 200 amperes           |
| Duration of surge current.....                  | 0.1 second            |
| Maximum grid current                            |                       |
| Instantaneous.....                              | 1.0 ampere            |
| Average.....                                    | 0.25 ampere           |
| Maximum time of averaging current.....          | 15 seconds            |
| Temperature limits, condensed mercury.....      | +40 to +80 centigrade |
| Recommended temperature, condensed mercury..... | +40 centigrade        |



K-8639304

7-29-43

THYRATRON FG-57  
TYPICAL CONTROL CHARACTERISTICS  
SHADED AREA SHOWS RANGE OF CHARACTERISTICS  
CONDENSED MERCURY TEMPERATURE 40 C



OUTLINE  
FG-57 THYRATRON

