



# THYRATRON

## DESCRIPTION

The FG-178-A is an inert-gas-filled thyratron with a negative control characteristic.

Although inert-gas-filled tubes can be operated in much lower ambient temperatures than the mercury-vapor types, they are not rated at as high voltages as mercury tubes of comparable size.

This tube is particularly adapted to applications where it is desired to have current flow in the absence of grid excitation, where constancy of characteristic is required with large variations in ambient temperature, and where the tube is subjected to intermittent operation.

## TECHNICAL INFORMATION

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

### GENERAL CHARACTERISTICS

Number of electrodes . . . . . 3

#### Electrical

Cathode—Filamentary type

Filament voltage . . . . . 2.5 volts

Filament current, approx. . . . . 2.25 amperes

Filament heating time, typical . . . . . 6 seconds

Peak voltage drop, approx. . . . . 16 volts

Approximate control characteristics

Anode voltage . . . . . 25      100      500 volts

Grid voltage . . . . . 0      -3.0      -7.0 volts

Anode to grid capacitance, approx. . . . . 2.5 micromicrofarads

Ionization time, approx. . . . . 10 microseconds

Deionization time, approx. . . . . 1000 microseconds



**TECHNICAL INFORMATION (CONT'D)**

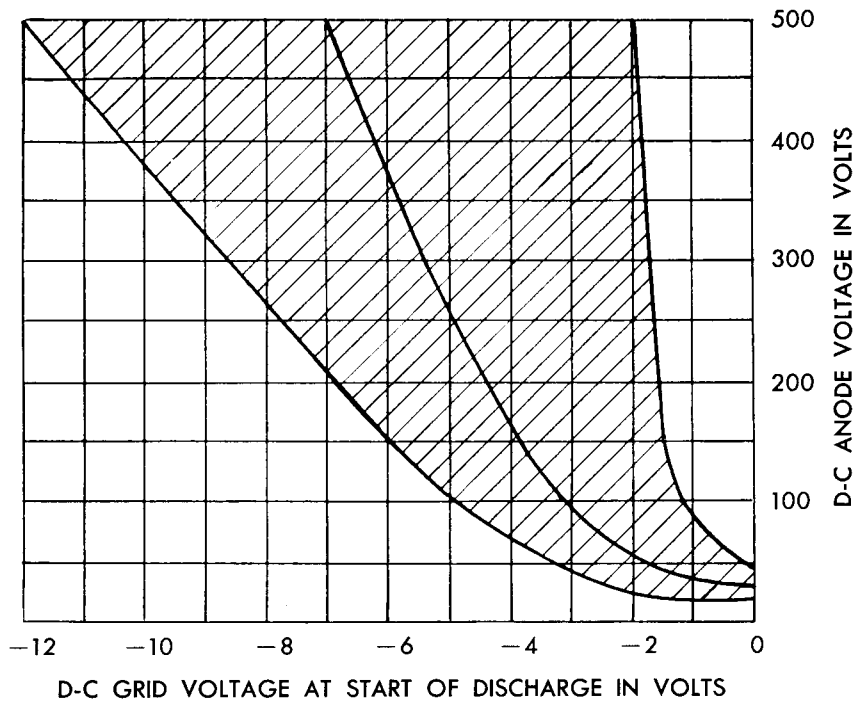
**Mechanical**

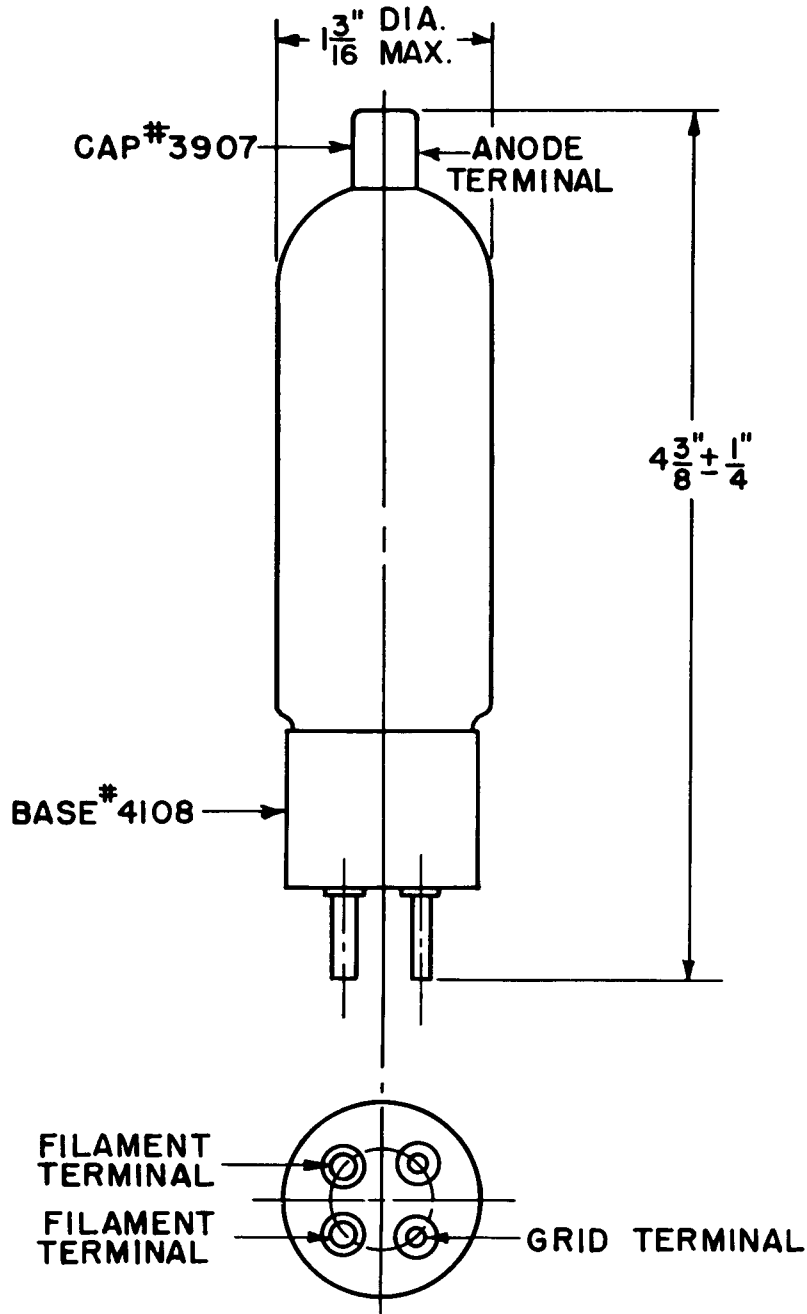
Net weight, approx. ....	2 ounces	
Shipping weight, approx. ....	2 pounds	
Mounting position. ....	vertical, base down	

**MAXIMUM RATINGS**

<b>Maximum peak anode voltage</b>		
Inverse .....	500	volts
Forward .....	500	volts
<b>Maximum negative grid voltage</b>		
Before conduction .....	70	volts
During conduction .....	10	volts
<b>Maximum anode current</b>		
Instantaneous, 25 cycles and above .....	0.500	ampere
Instantaneous, below 25 cycles .....	0.250	ampere
Average .....	0.125	ampere
Surge, for design only .....	20.0	ampere
Duration of surge current .....	0.1	second
<b>Maximum grid current</b>		
Instantaneous .....	0.020	ampere
Average .....	0.005	ampere
Maximum time of averaging current .....	15	seconds
Ambient temperature limits .....	-20 to +50	centigrade

THYRATRON FG-178-A  
 TYPICAL CONTROL CHARACTERISTICS  
 SHADED AREA SHOWS RANGE OF CHARACTERISTICS





OUTLINE  
FG-178-A THYRATRON

*Electronics Department*  
**GENERAL  ELECTRIC**  
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