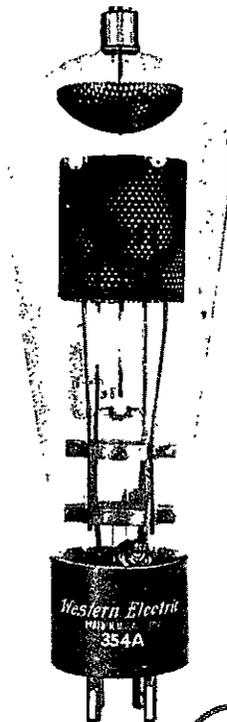


ELECTRON TUBE DATA SHEET
WESTERN ELECTRIC 354A ELECTRON TUBE



DESCRIPTION

The 354A is a three-electrode mercury-vapor thyatron with a negative control characteristic. This tube is designed for regulated or controlled rectifiers.

MAXIMUM RATINGS

Peak Anode Voltage	1500, volts
Average Cathode Current	4 amperes

FILE: THYRATRON SECTION

MAXIMUM RATINGS, ABSOLUTE VALUES

Peak Anode Voltage	
Inverse	1500 volts
Forward	1500 volts
Cathode Current	
Peak	16 amperes
Average	4 amperes
Surge (maximum duration 0.1 second)	160 amperes
Averaging Time	15 seconds
Negative Grid Voltage .	
Before Conduction	500 volts
During Conduction	10 volts
Positive Grid Current, Average	
(Averaging time = one cycle)	0.050 ampere
Condensed Mercury Temperature Limits	+30 to +70 centigrade

ELECTRICAL DATA

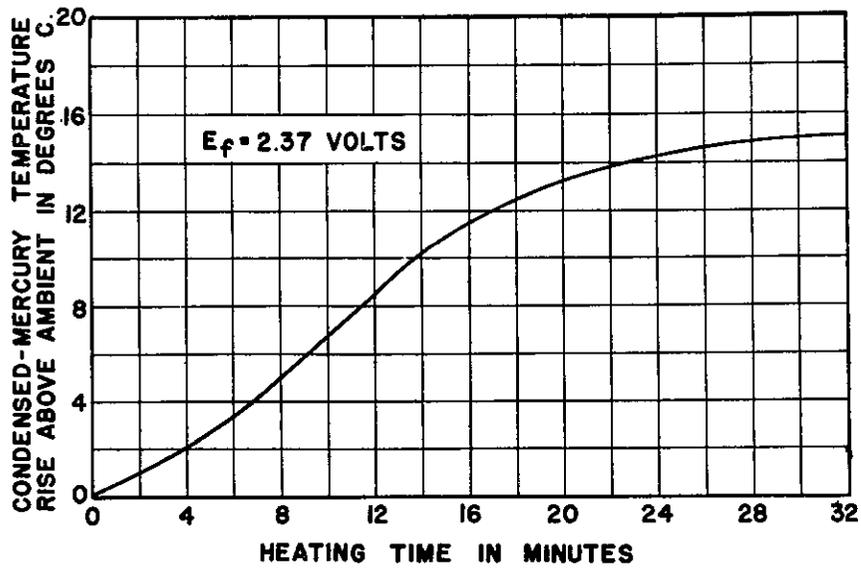
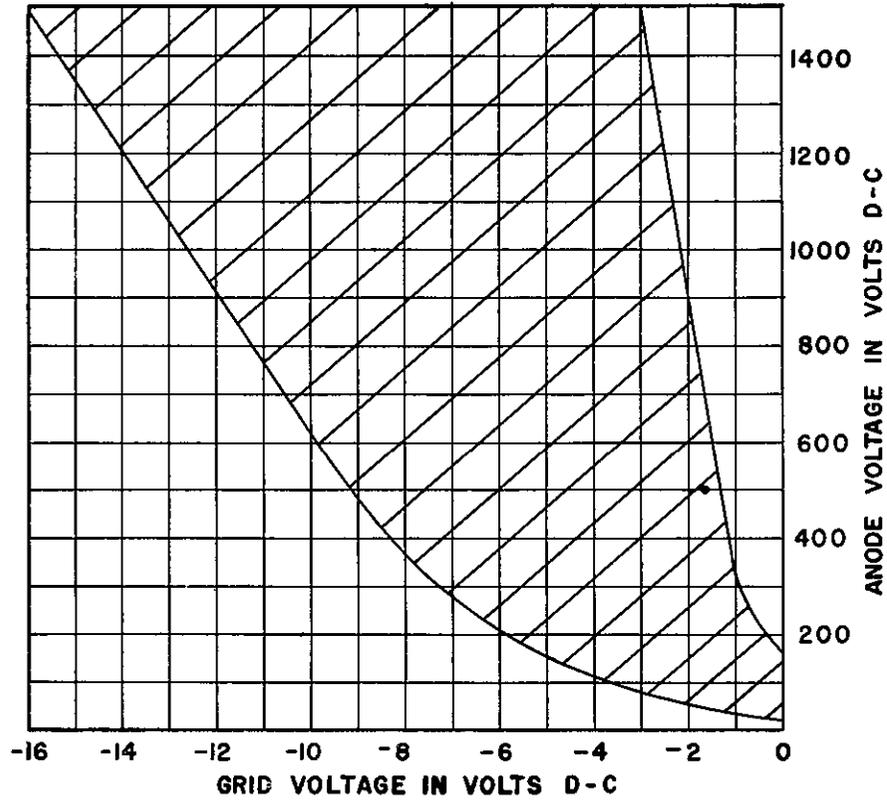
	<u>Min.</u>	<u>Bogey</u>	<u>Max.</u>
Filament Voltage	2.37	2.5	2.62 volts
Filament Current at 2.5 Volts	----	16	17.5 amperes
Filament Heating Time Required	45	----	---- seconds
Anode to Grid Capacitance	----	1.4	---- uuf.
Grid to Filament Capacitance	----	8	---- uuf.
Deionization Time, Approximate ¹			
E_{bb} -1500 volts; I_b -16 amperes;	----	2500	---- microseconds
E_{cc} --25 volts; THg -80C; R_g -20000 ohms			
Ionization Time, Approximate ²			
E_{bb} -100 volts; THg -40C; Grid Overvoltage-5 volts	----	75	---- microseconds
E_{bb} -100 volts; THg -80C; Grid Overvoltage-25 volts	----	1	---- microsecond
Anode Voltage Drop	----	15	---- volts
Critical Grid Current at 220 Anode Volts	----	----	5 microamperes

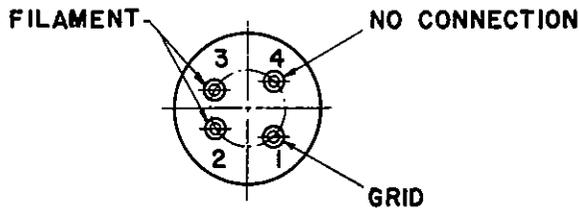
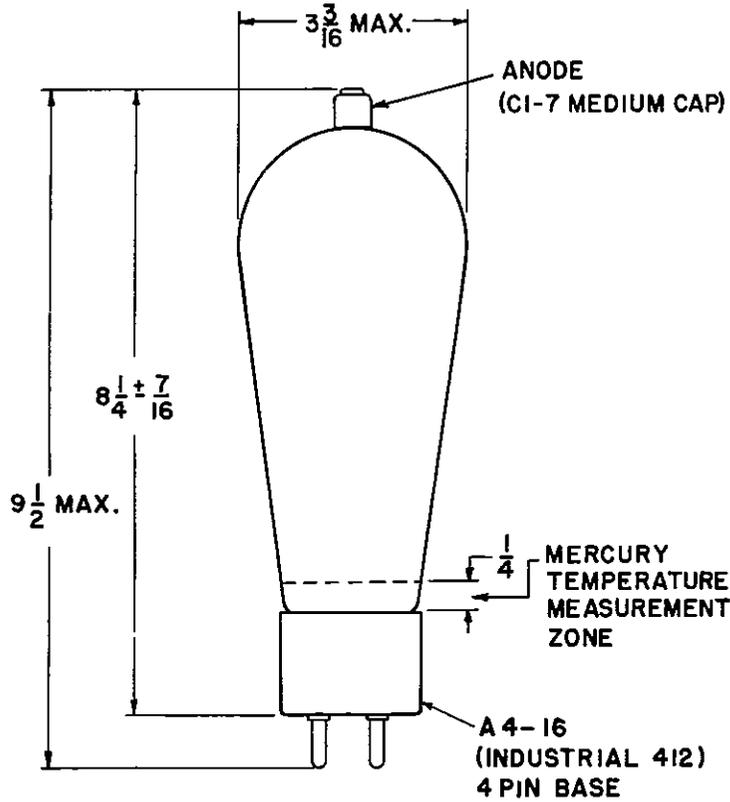
MECHANICAL DATA

Type of Cooling	Convection
Equilibrium Condensed Mercury Temperature	
Rise Above Ambient	
At Full Load (approximate).	25 Centigrade
At No Load (approximate).	15 Centigrade
Mounting Position	Vertical - base down
Net Weight, Approximate	8 ounces
Dimensions and pin connections shown in outline drawing on Page 4	

1. Deionization time decreases with an increase in negative grid voltage or with a decrease in (a) condensed mercury temperature (THg), (b) grid resistance or (c) anode current immediately preceding the end of conduction.
2. Ionization time decreases with an increase in (a) anode voltage, (b) condensed mercury temperature (THg) or (c) grid overvoltage. Grid overvoltage is defined as the magnitude by which the applied voltage exceeds, in a positive direction, the critical grid voltage value. Critical grid voltage is the instantaneous value of grid voltage at the time when anode current starts to flow.

TYPICAL CONTROL CHARACTERISTICS.
 SHADED AREA SHOWS RANGE OF CHARACTERISTICS,
 CONDENSED-MERCURY TEMPERATURE +30° TO+70°C





A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company.