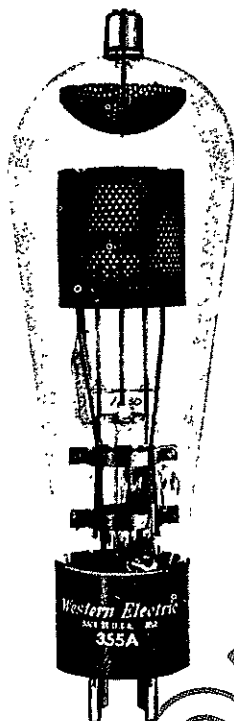

ELECTRON TUBE DATA SHEET
WESTERN ELECTRIC 355A ELECTRON TUBE



ONLY

DESCRIPTION

The 355A is a three-electrode mercury-vapor and gas-filled thyatron with a negative control characteristic. This tube is designed for regulated or controlled rectifiers.

MAXIMUM RATINGS

Peak Anode Voltage 350 volts
Average Cathode Current 4 amperes

FILE:THYRATRON SECTION

MAXIMUM RATINGS, ABSOLUTE VALUES

Peak Anode Voltage	
Inverse	350 volts
Forward	350 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	100 volts
During Conduction	10 volts
Positive Grid Current, Average (Averaging time = one cycle)	
	0.050 ampere
Condensed Mercury Temperature Limits ¹	
	-55 to +80 centigrade

ELECTRICAL DATA

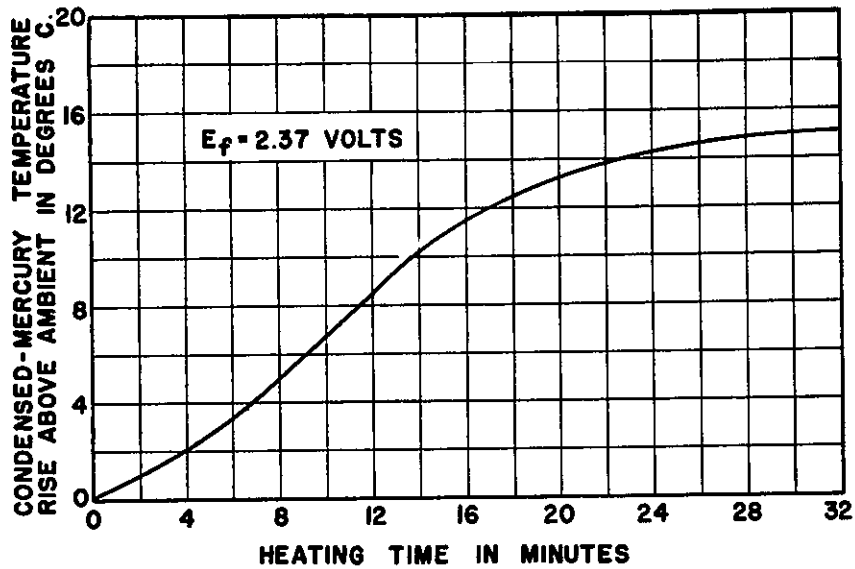
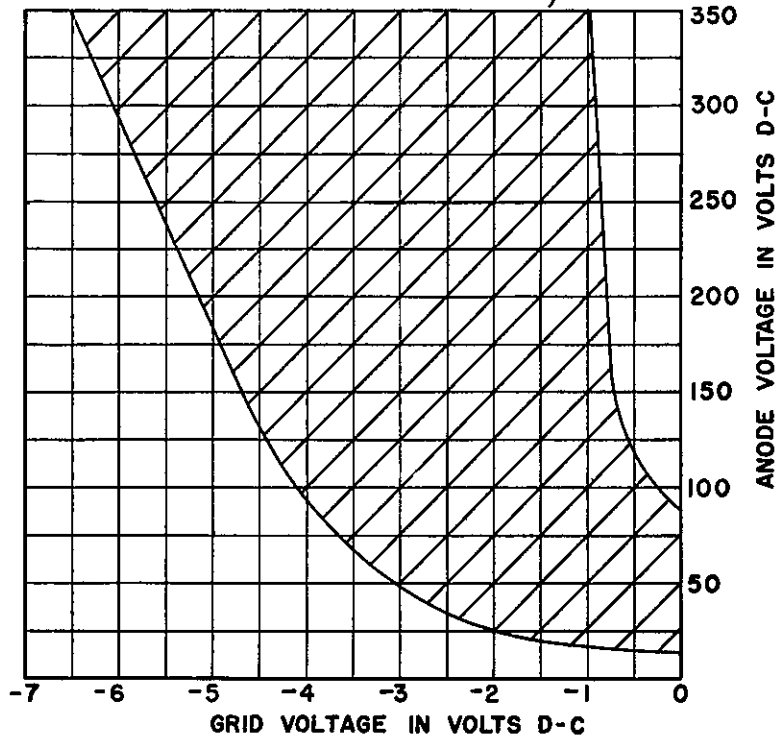
	<u>Min.</u>	<u>Bogey</u>	<u>Max.</u>
Filament Voltage	2.37	2.5	2.62 volts
Filament Current at 2.5 Volts	----	16	17.5 amperes
Filament Heating Time Required	45	----	---- seconds
Anode to Grid Capacitance	----	1.4	---- uuf.
Grid to Filament Capacitance	----	8	---- uuf.
Deionization Time, Approximate ²			
E _{bb} =350 volts; I _b =16 amperes;			
E _{cc} =-15 volts; THg=80C; Rg=20000 ohms	----	3000	---- microseconds
Ionization Time, Approximate			
E _{bb} =100 volts; THg=40C; Grid Overvoltage=5 volts	----	15	---- microseconds
E _{bb} =100 volts; THg=80C; Grid Overvoltage=25 volts	----	1	---- microseconds
Anode Voltage Drop	----	15	---- volts
Critical Grid Current at 220 Anode Volts	----	----	5 microamperes
Change in Critical Grid Voltage at			
350 Anode Volts from +20 to +80 THg	----	0.2	---- volt

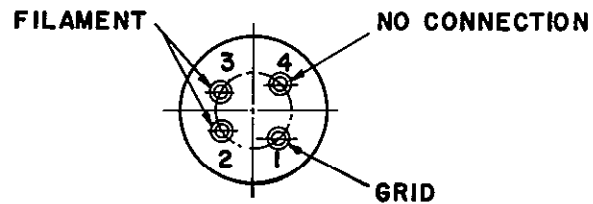
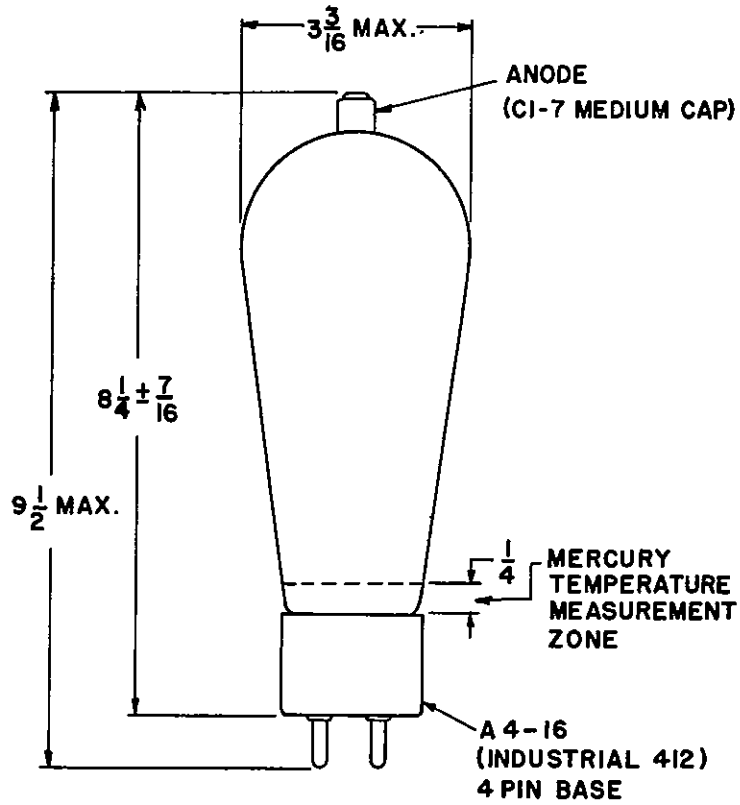
MECHANICAL DATA

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. For starting conditions only. Equilibrium operation is limited to +20C minimum condensed mercury temperature.
2. 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.
3. 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 -55° TO $+80^{\circ}\text{C}$





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