

March 13, 1959

THYRATRON TYPE WL-7363

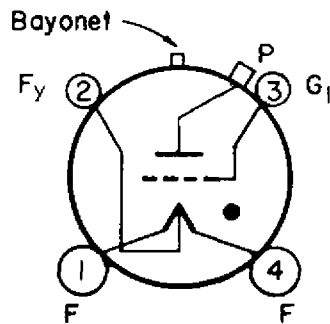
The WL-7363 tube is a three-electrode, inert gas-filled thyatron with a negative control characteristic. This tube is designed primarily for inverter and industrial control applications.

ELECTRICAL:

Cathode	Directly Heated Coated Filament			
Filament:	Min.	Bogey	Max.	
Voltage	2.37	2.50	2.63	Volts
Filament Current at Bogey				
Voltage	--	8.5	10	Amperes
Filament Heating Time	10	--	--	Seconds
Critical Grid Voltage				See CE-A1088
Grid Current Before Conduction				
Zero Anode Current				See CE-A1089
Rated Anode Current				See CE-A1090
Grid Current During Conduction				See CE-A1091
Typical Deionization Time				See CE-A1442
Ionization Time (approx)		10		μ second
Typical Anode Voltage Drop		16		Volts
Direct Interelectrode Capacitances:				
Anode-Grid Capacitance		0.35		μ uf
Grid-Cathode Capacitance		11.5		μ uf
Anode-Cathode Capacitance		5.1		μ uf

MECHANICAL:

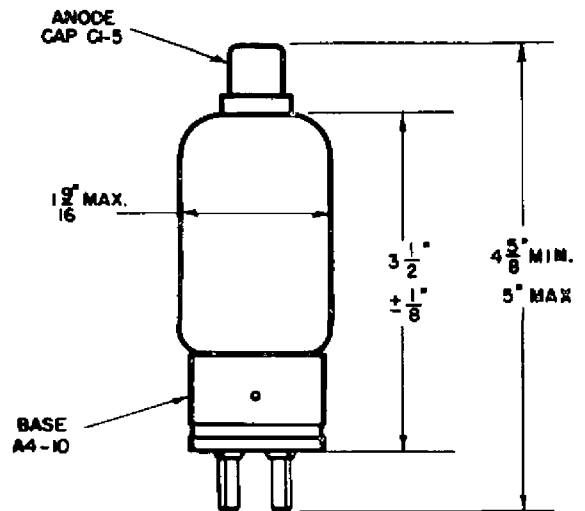
Type of Cooling	Air, convection
Mounting Position	Any
Cap, medium, ceramic insert	JEDEC C1-5
Base	Medium 4-Pin Bayonet, Metal Shell JEDEC A4-10
Basing	4CF
Bulb	T-12
Net Weight (approx.)	3 oz
Shipping Weight (approx.)	24 oz



BASE CONNECTIONS

F - Filament
G₁ - Control Grid
P - Plate & Anode
F_y - Filament Center Tap & Anode Return

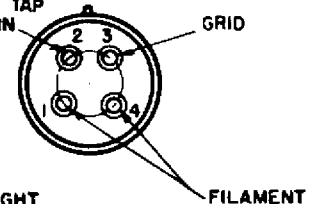
CE-A1102



FILAMENT CENTER TAP AND ANODE RETURN

BASE MATERIAL SPECS.

1. SHELL - .025" ALUMINUM
2. SIDE PIN - DURALUMIN
3. INSERT - ISOLANTITE
4. CONTACT PINS - BRASS, BRIGHT NICKEL FINISH.



Thyratron Section

MAXIMUM RATINGS■

Absolute Maximum Values:

Peak Anode Voltage			
Forward.....	1500 max.	volts	
Inverse.....	1500 max.	volts	
Cathode Current:			
Peak.....	20 max.	amp	
Average.....	1.6 max.	amp	
Fault (surge) maximum duration 0.1 sec:♠			
Connection (a).....	240 max.	amp	
Connection (b).....	120 max.	amp	
Connection (c).....	120 max.	amp	
Maximum Average Time.....	15 max.	sec	
Commutation FactorΔ.....	10 max.	va/μsec	
Current Rate of Change.....	0.07 max.	amp/μsec	
Voltage Rate of Change.....	150 max.	v/μsec	
Negative Control Grid Voltage:			
Before Conduction.....	-250 max.	volts	
During Conduction:‡.....	-10 max.	volts	
Average Positive Control Grid Current:			
Averaging Time=1 cycle:§.....	0.10 max.	amp	
Ambient Temperature Limits.....	-55 to +70 max.	°C	
Maximum Frequency.....	See CE-A1442		

♠ These ratings are effective only when connections are made as shown in CE-A1103.

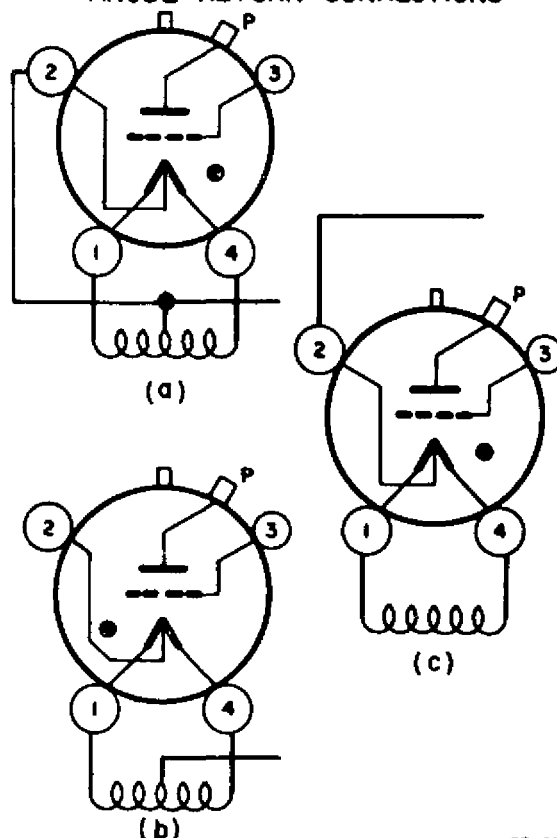
■ These ratings are important in the prevention of "clean-up" or loss of the inert gas filling. Their observance will reduce the bombardment of anode or grid by positive ions of the gas filling, which may cause the gas ions to be absorbed in the tube element concerned.

Δ Commutation factor is the product of the rate of current decay in amperes per microsecond just prior to the end of commutation and the rate of inverse voltage rise in volts per microsecond just after the end of commutation. Its value should not exceed the value given in order to reduce ion bombardment of the anode during the deionization period. Limits are given on both components of this factor to correspond to factory test data limits. The limit on current rate of change is about at the highest value which is allowable under the fault current limit.

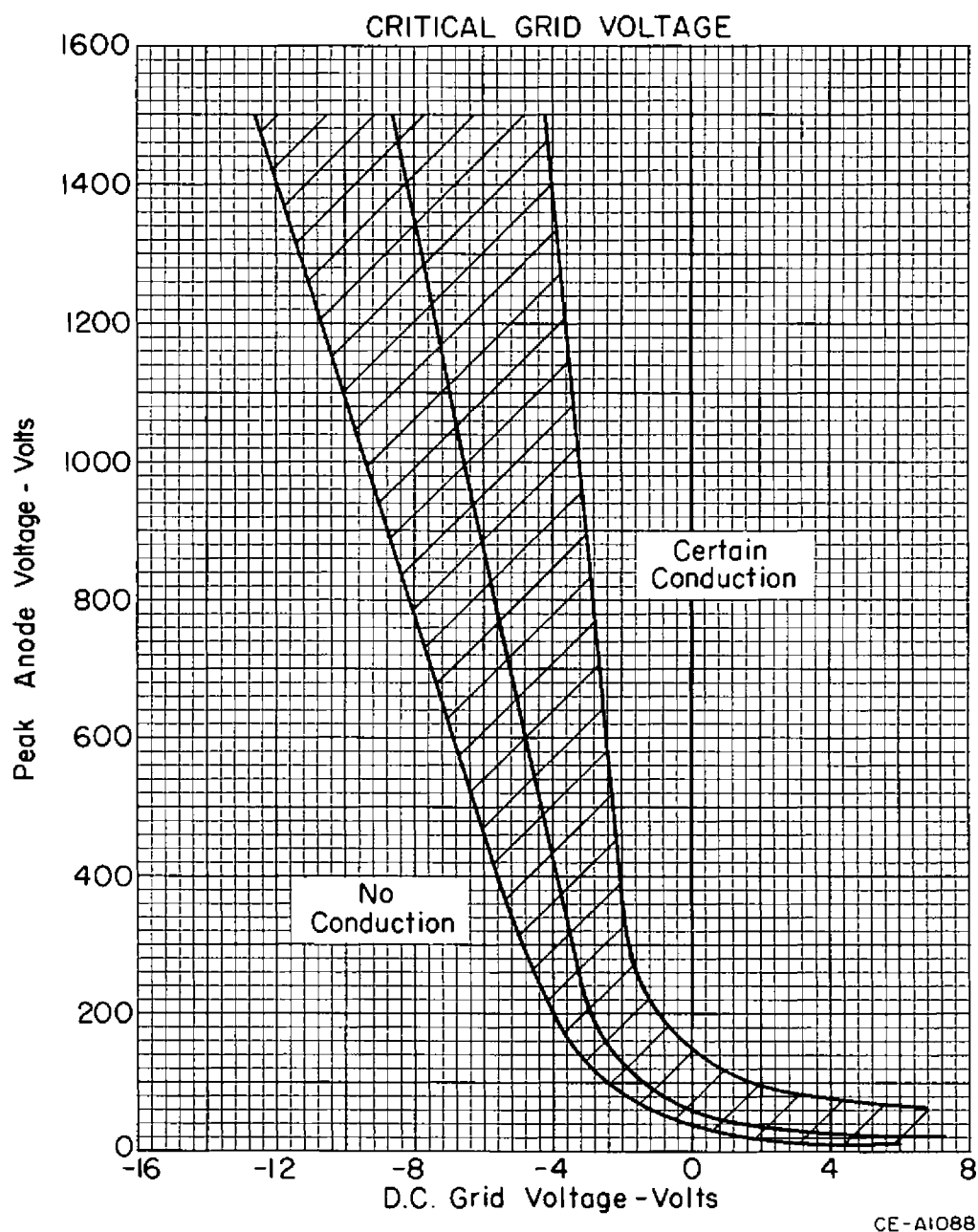
‡ When the tube conducts, positive ions are attracted to a grid at negative potential. This positive ion current flowing through the grid resistor will reduce the negative voltage at the grid from the higher negative grid supply voltage. To reduce ion grid bombardment, sufficient resistance must be provided to drop the negative grid supply voltage to a value not more negative than -10 volts as shown in the ratings. The magnitude of the grid current during conduction is shown by the curves of CE-A1091.

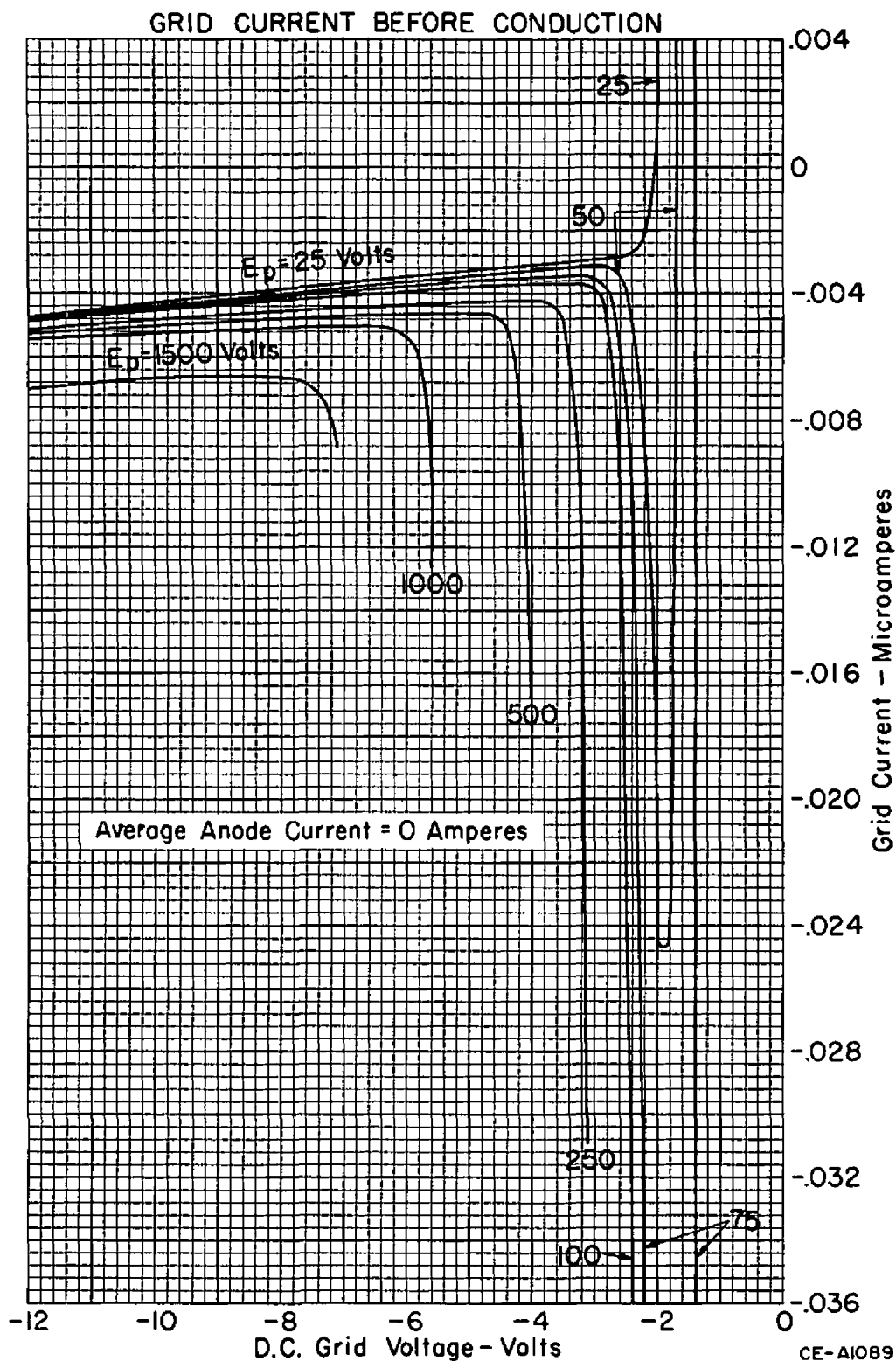
§ This rating indicates the heat emission properties of the grid. This value of current may be safely drawn to the grid if conduction occurs only while the anode is positive. However, during the period of negative anode potential, the grid potential must also be negative to prevent electrons being drawn to the grid and generating positive ions which would bombard the anode.

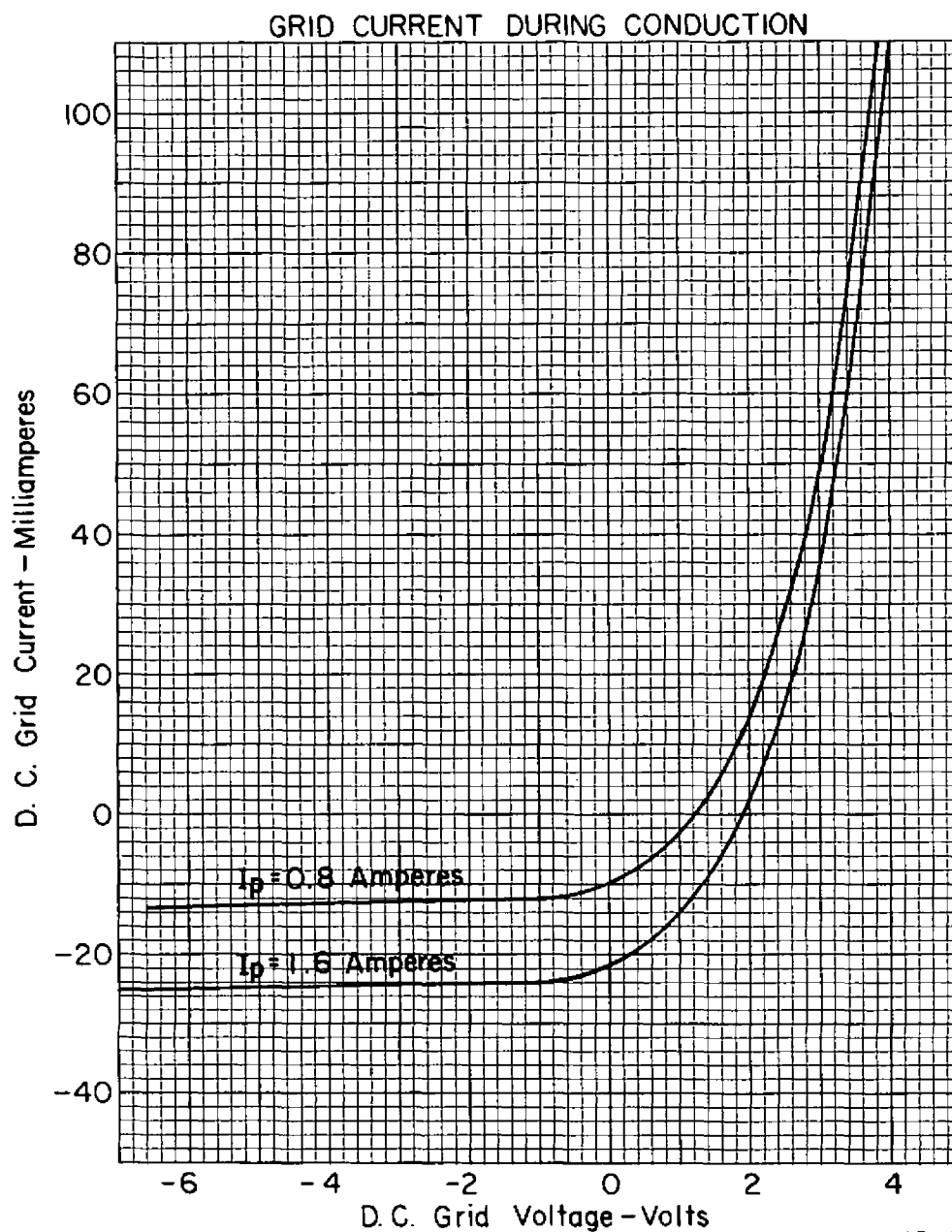
ANODE RETURN CONNECTIONS



CE-A1103

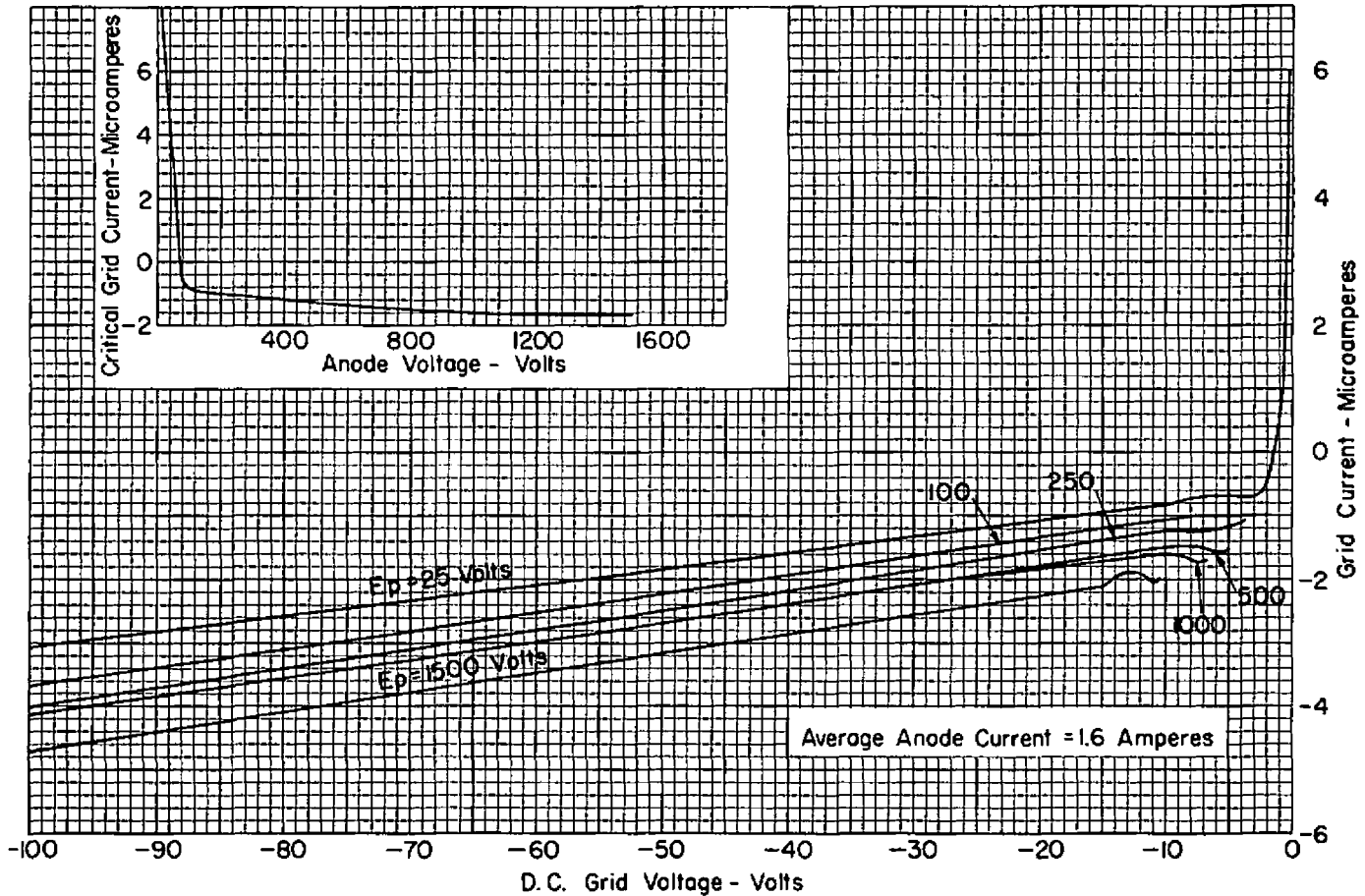






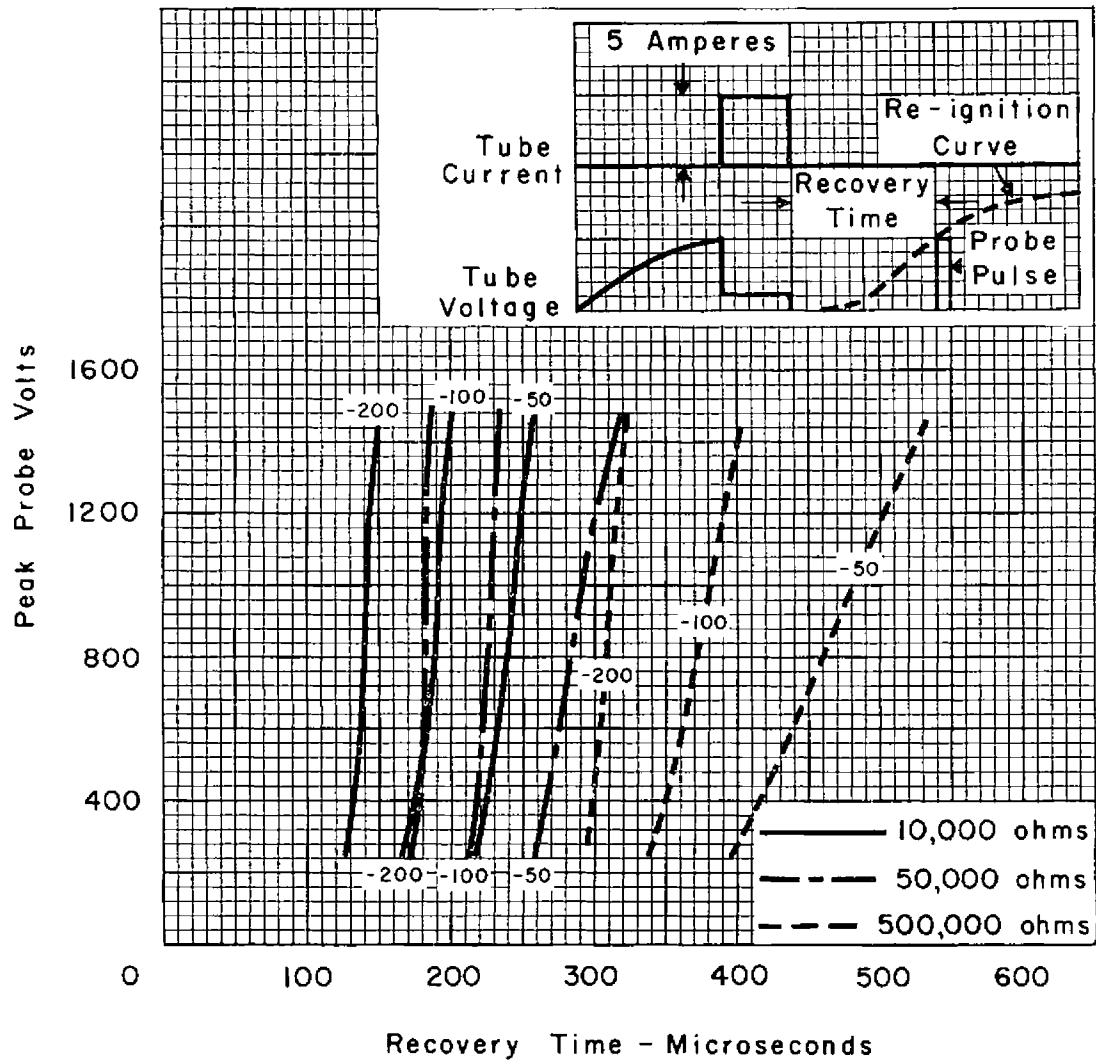
CE - A1091

GRID CURRENT BEFORE CONDUCTION



CE-A1090

TYPICAL RECOVERY TIME



CE-A1442