



502-A THYRATRON GAS TETRODE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage.	6.3	ac or dc volts
Current.	0.6	amp

Cathode:

Heating Time, prior to tube conduction.	10	sec
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Direct Interelectrode Capacitance (Approx.):

Grid No.1 to Anode	0.2	$\mu\mu\text{f}$
ionization Time (Approx.).	5	μsec
Deionization Time (Approx.) 1000		μsec

Maximum Critical Grid-

No.1 Current.	4	μamp
Anode Voltage Drop(Approx.)	11	volts

Approximate Control Characteristics

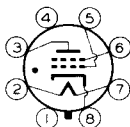
(With 0.1-megohm grid-No.1 resistor):

Peak Anode Voltage	30	100	650	volts
Grid-No.1 Voltage.	0	-1.5	-3.75	volts
Grid-No.2 Voltage.	0	0	0	volts

Mechanical:

Mounting Position.	Any
Maximum Overall Length	2-5/8" ←
Seated Length.	1-31/32" ± 3/32" ←
Maximum Diameter	1-5/16" ←
Bulb	Metal Shell MT-8 ←
Base	Small-Wafer Octal 8-Pin
Basing Designation for BOTTOM VIEW	6B5

- Pin 1 - No Connection
- Pin 2 - Heater
- Pin 3 - Anode
- Pin 4 - No Connection
- Pin 5 - Grid No.1



- Pin 6 - Grid No.2
- Pin 7 - Heater
- Pin 8 - Cathode, Shell

RELAY and GRID-CONTROLLED RECTIFIER SERVICE

Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:

Forward.	650 max.	volts
Inverse.	1300 max.	volts

GRID-No.2 (SHIELD-GRID) VOLTAGE:

Peak, before anode conduction.	-100 max.	volts
Average, during anode conduction [□]	-5 max.	volts

GRID-No.1 (CONTROL-GRID) VOLTAGE:

Peak, before anode conduction.	-200 max.	volts
Average, during anode conduction [□]	-10 max.	volts

[□] See next page.

← Indicates a change.

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CATHODE CURRENT:

Peak	1.0 max.	amp
Average [□]	0.1 max.	amp
Surge, for duration of 0.1 sec. max. . .	10 max.	amp

GRID-No.2 CURRENT:

Average [□]	10 max.	ma
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GRID-No.1 CURRENT:

Average [□]	10 max.	ma
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PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	25 max.	volts

AMBIENT TEMPERATURE RANGE. -55 to +90 °C

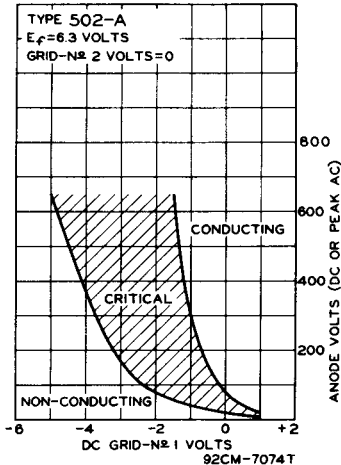
[□] Averaged over any interval of 30 sec. max.



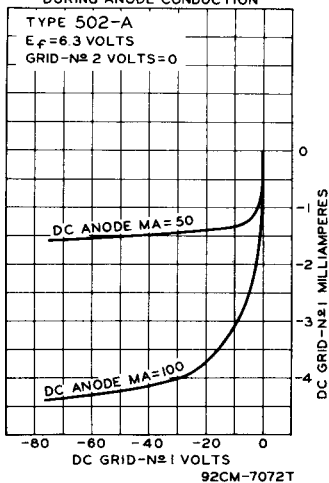
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OPERATIONAL RANGE OF CRITICAL GRID-N₂1 VOLTAGE



AVERAGE GRID CHARACTERISTICS DURING ANODE CONDUCTION



SEPT. 30, 1948

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-7074T-7072T



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502-A GAS THYRATRON

NEGATIVE-CONTROL TETRODE TYPE WITH METAL SHELL

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

	Min.	Av.	Max.	
Voltage	5.7	6.3	7	ac or dc volts
Current at 6.3 volts	-	0.6	0.66	amp

Cathode:

Minimum heating time
prior to tube conduction 10 sec

Direct Interelectrode Capacitances:

Grid No.1 to anode	0.2	$\mu\mu\text{f}$
Grid No.1 to cathode & shell, grid No.2, and heater	2.5	$\mu\mu\text{f}$

Ionization Time (Approx.) 0.5 μsec

Deionization Time (Approx.):

For conditions: dc anode ma = 100,
grid-No.1-circuit resistor (ohms)
= 1000, and dc grid-No.1 supply
volts = -250 10 μsec

For conditions: dc anode ma = 100,
grid-No.1-circuit resistor (ohms)
= 1000, and dc grid-No.1 supply
volts = -15 150 μsec

Maximum Critical Grid-No.1 Current:

For conditions: anode volts (rms)
= 460, and dc grid-No.1 volts ad-
justed to cutoff 2 μamp

Anode Voltage Drop 8 volts

Mechanical:

Mounting Position Any

Maximum Overall Length 2-5/8"

Seated Length 1-31/32" \pm 3/32"

Maximum Diameter 1-5/16"

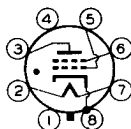
Weight (Approx.) 2 oz

Bulb Metal Shell MT8G

Base Small-Wafer Octal 8-Pin (JETEC No. B8-21)

BOTTOM VIEW

- Pin 1 - No Connection
- Pin 2 - Heater
- Pin 3 - Anode
- Pin 4 - No Connection



- Pin 5 - Grid No.1
- Pin 6 - Grid No.2
- Pin 7 - Heater
- Pin 8 - Cathode, Shell

RELAY and GRID-CONTROLLED RECTIFIER SERVICE

Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:

Forward	180 max.	650 max.	volts
Inverse	360 max.	1300 max.	volts

← Indicates a change.

MAY 1, 1955

TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA

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GAS THYRATRON

GRID-No.2 (SHIELD-GRID)			
VOLTAGE:			
Peak, before tube			
conduction	-100 max.	-100 max.	volts
Average [■] , during tube			
conduction	-5 max.	-5 max.	volts
GRID-No.1 (CONTROL-GRID)			
VOLTAGE:			
Peak, before tube			
conduction	-250 max.	-250 max.	volts
Average [■] , during tube			
conduction	-10 max.	-10 max.	volts
CATHODE CURRENT:			
Peak	1.0 max.	1.0 max.	amp
Average [●]	0.2 max.	0.1 max.	amp
Fault, for duration of			
0.1 second max.	10 max.	10 max.	amp
GRID-No.2 CURRENT:			
Average [■]	+0.01 max.	+0.01 max.	amp
GRID-No.1 CURRENT:			
Average [■]	+0.01 max.	+0.01 max.	amp
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with			
respect to cathode . . .	100 max.	100 max.	volts
Heater positive with			
respect to cathode . . .	25 max.	25 max.	volts
AMBIENT-TEMPERATURE RANGE. .	-55 to +90	-55 to +90	°C

■ Averaged over 1 cycle.

● Averaged over any interval of 30 seconds maximum.

For Dimensional Outline, see GENERAL SECTION

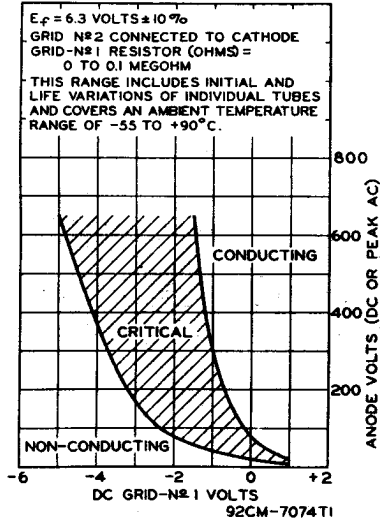


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GAS THYRATRON

OPERATIONAL RANGE OF CRITICAL GRID-N#1 VOLTAGE



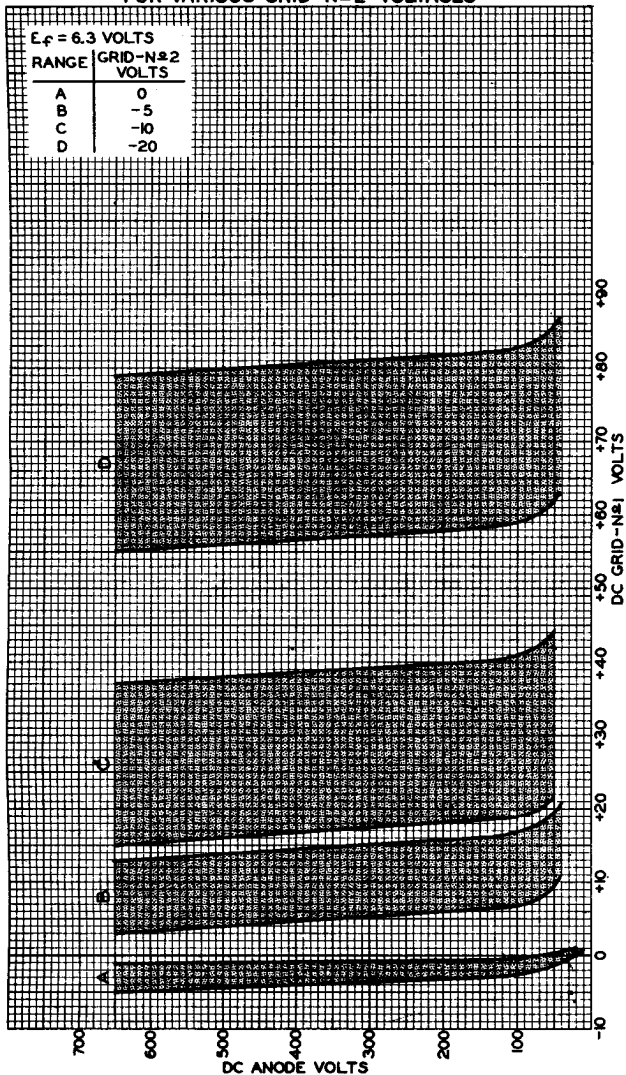
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502-A OPERATIONAL RANGES OF CRITICAL GRID-N₂1 VOLTAGE FOR VARIOUS GRID-N₂2 VOLTAGES

$E_f = 6.3$ VOLTS

RANGE	GRID-N ₂ 2 VOLTS
A	0
B	-5
C	-10
D	-20

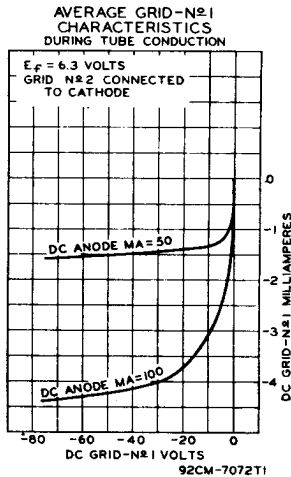
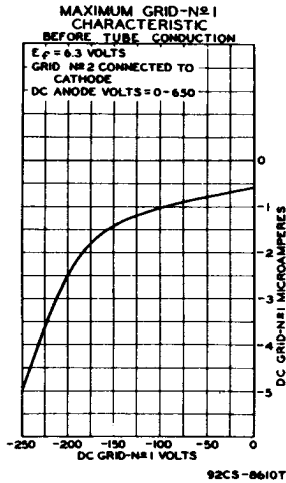




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CHARACTERISTIC CURVES



MAY 1, 1955

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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