



6012

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THYRATRON

GAS TETRODE

GENERAL DATA

Electrical:

Heater, for Unipotential

	Cathode:	Min.	Av.	Max.	
Voltage (AC or DC) . . .		5.7	6.3	5.9	volts
Current at 6.3 volts . .		2.35	2.6	2.85	amp

Cathode:

Minimum Heating Time, prior to tube conduction	30	seconds
Maximum Outage Time, without reheating . .	5	seconds

Direct Interelectrode Capacitances

(Approx., without external shield):

Grid No.1 to Anode	0.23	μ mf
Input	5.8	μ mf
Output	3.9	μ mf

Maximum Critical Grid-No.1 Current with
ac anode-supply volts (rms) = 460,
and average anode current = 0.5 amp 3 μ amp

Anode Voltage Drop (Approx.) 10 volts

Grid-No.1 Control Ratio (Approx.) with
grid-No.1 resistor (megohms) = 0;
grid-No.2 resistor (megohms) = 0;
and dc grid-No.2 volts = 0 150

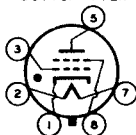
Grid-No.2 Control Ratio (Approx.) with
grid-No.1 resistor (megohms) = 0;
grid-No.2 resistor (megohms) = 0;
and dc grid-No.1 volts = 0 650

Mechanical:

Mounting Position	Any
Maximum Overall Length	4-1/4"
Maximum Seated Length	3-11/16"
Maximum Diameter	1-23/32"
Bulb	T-12
Base	Short Jumbo-Shell Octal 6-Pin (JETEC No. B6-73)

BOTTOM VIEW

Pin 1 - Cathode
Pin 2 - Heater
Pin 3 - Grid No.1



Pin 5 - Anode
Pin 7 - Heater
Pin 8 - Grid No.2

RELAY AND GRID-CONTROLLED RECTIFIER SERVICE

For Anode-Supply Frequency of 60 cps

Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:

Forward	650 max.	volts
Inverse	1300 max.	volts

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

Peak, before anode conduction -100 max. volts
 Average*, during anode conduction . . . -10 max. volts

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

Peak, before anode conduction -200 max. volts
 Average*, during anode conduction . . . -10 max. volts

CATHODE CURRENT:

Peak 5 max. amp
 Average* 0.5 max. amp
 Fault, for duration of 0.1 sec. max. . . 20 max. amp

GRID-No.2 CURRENT:

Average* 0.05 max. amp

GRID-No.1 CURRENT:

Average* 0.05 max. amp

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 -75 to +90 °C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 2 max. megohms

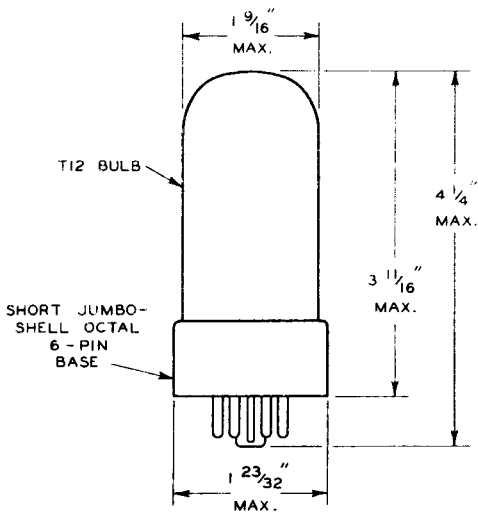
* Averaged over any interval of 30 seconds maximum.



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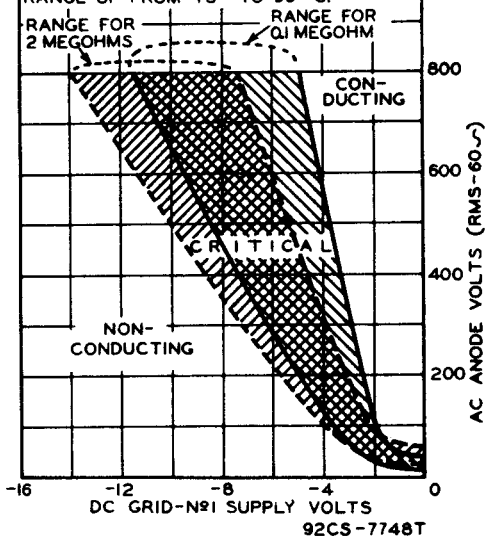


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OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

TYPE 6012 GRID-N^o2 (SHIELD) VOLTS=0
 RANGES SHOWN ARE FOR TWO VALUES
 OF GRID-N^o1 RESISTOR—0.1 MEG. AND
 2 MEG.—AND TAKE INTO ACCOUNT INITIAL
 DIFFERENCES BETWEEN INDIVIDUAL
 TUBES AND SUBSEQUENT DIFFERENCES
 DURING TUBE LIFE. FOR HEATER-
 VOLTAGE RANGE OF 5.7 TO 6.9 VOLTS
 AND FOR AN AMBIENT TEMPERATURE
 RANGE OF FROM -75° TO 90° C.



JULY 1, 1952

TUBE DEPARTMENT
 RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

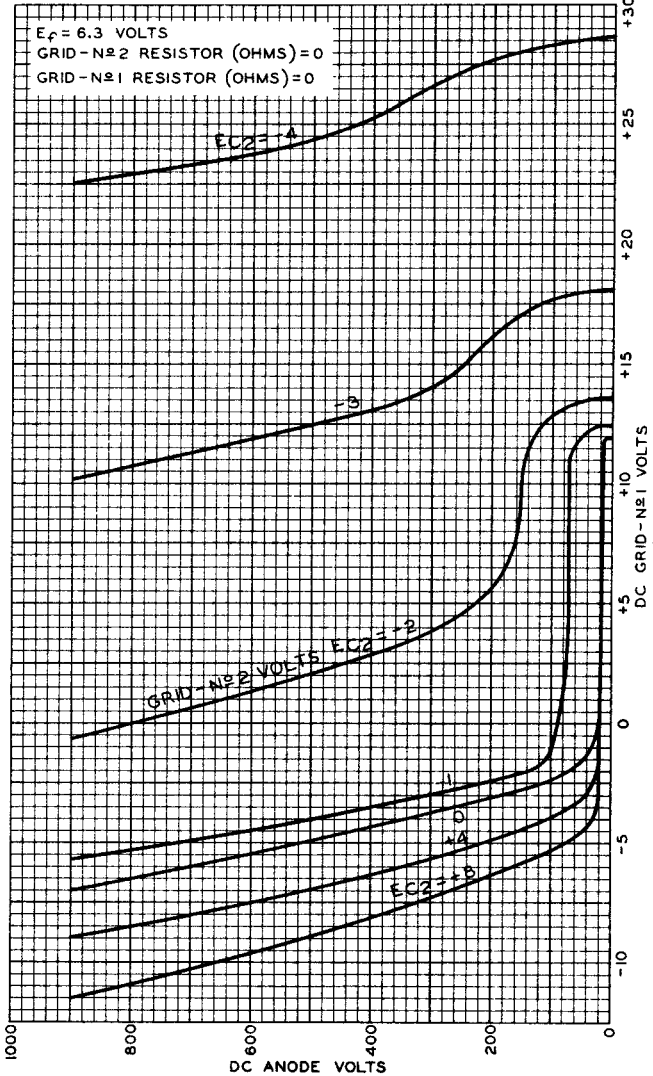
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AVERAGE CONTROL CHARACTERISTICS



FEB. 4, 1952

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7747

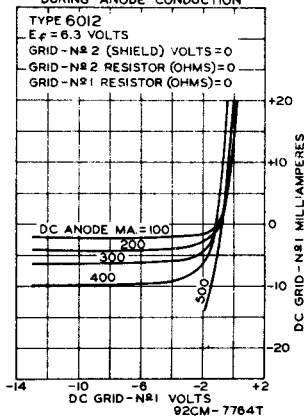
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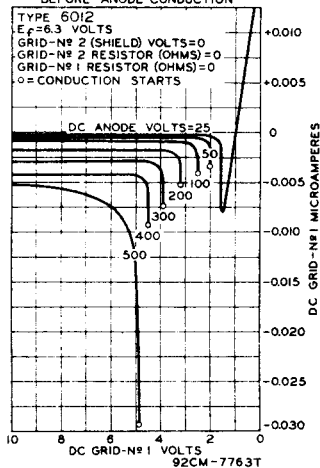
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THYRATRON

AVERAGE GRID CHARACTERISTICS DURING ANODE CONDUCTION



AVERAGE GRID CHARACTERISTICS BEFORE ANODE CONDUCTION



JULY 1, 1952

TUBE DEPARTMENT
 RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-7764T-7763T



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GAS THYRATRON

NEGATIVE-CONTROL TETRODE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

	Min.	Av.	Max.	
Voltage	5.7	6.3	6.9	ac or dc volts
Current at 6.3 volts	-	2.6	2.85	amp

Cathode:

Minimum heating time prior to tube conduction	30	sec
Maximum outage time without reheating	5	sec

Direct Interelectrode Capacitances

(Approx.):^o

Grid No.1 to anode	0.23	$\mu\mu\text{f}$
Grid No.1 to cathode, grid No.2, and heater	5.8	$\mu\mu\text{f}$
Anode to cathode, grid No.2, and heater	3.9	$\mu\mu\text{f}$

Ionization Time (Approx.):

For conditions: dc anode volts = 100, grid-No.2 volts = 0, grid-No.1 square-pulse volts = +50, and peak anode amperes during conduction = 5	0.5	μsec
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Deionization Time (Approx.)

See Table I ←

Maximum Critical Grid-No.1 Current:

For conditions: ac anode-supply volts = 460 (rms), and average anode amperes = 0.5	3	μamp
Anode Voltage Drop (Approx.)	10	volts

Grid-No.1 Control Ratio (Approx.):

For conditions: grid-No.1 resistor (megohms) = 0, grid-No.2 resistor (megohms) = 0, and grid-No.2 volts = 0	150	
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Grid-No.2 Control Ratio (Approx.):

For conditions: grid-No.1 resistor (megohms) = 0, grid-No.2 resistor (megohms) = 0, and grid-No.1 volts = 0	650	
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Mechanical:

Mounting Position	Any
Maximum Overall Length	3-7/8" ←
Maximum Seated Length	3-5/16" ←
Maximum Diameter	1-23/32" ←
Bulb	T-12 ←
Base	Large-Wafer Octal 6-Pin ←
	with External Barriers and Sleeve (JETEC No.B6-100)

^o Without external shield.

← Indicates a change.



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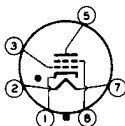
GAS THYRATRON

Basing Designation for BOTTOM VIEW 6C0

Pin 1 - Cathode

Pin 2 - Heater

Pin 3 - Grid No.1



Pin 5 - Anode

Pin 7 - Heater

Pin 8 - Grid No.2

RELAY AND GRID-CONTROLLED RECTIFIER SERVICE

For anode-supply frequency of 60 cps

Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:

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

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

Peak, before tube conduction	-100 max.	volts
Average [#] , during tube conduction	-10 max.	volts

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

Peak, before tube conduction	-200 max.	volts
Average [#] , during tube conduction	-10 max.	volts

CATHODE CURRENT:

Peak	5 max.	amp
Average [#]	0.5 max.	amp
Fault, for duration of 0.1 second max.	20 max.	amp

AVERAGE GRID-No.2 CURRENT[#] +0.05 max. amp

AVERAGE GRID-No.1 CURRENT[#] +0.05 max. amp

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. -75 to +90 °C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance 2 max. megohms

[#] Averaged over any interval of 30 seconds maximum.

→ Indicates a change.



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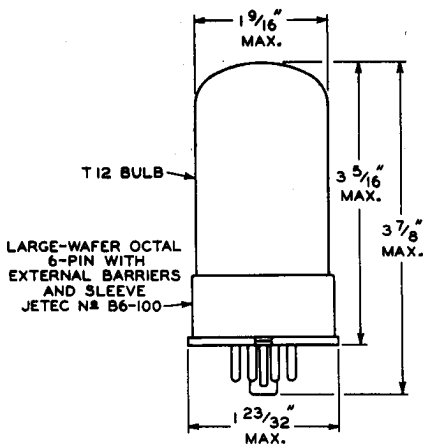
GAS THYRATRON

TABLE I

E_{cc1} = DC Grid-No.1 Supply Voltage (Volts)
 E_{cc2} = DC Grid-No.2 Supply Voltage (Volts)
 R_{g1} = Grid-No.1 Resistor (Megohms)
 R_{g2} = Grid-No.2 Resistor (Ohms)

DC Anode Volts	125		250		R_{g1}	E_{cc1}	R_{g2}^*	E_{cc2}
	0.5	1.0	0.5	1.0				
DEIONIZATION TIME	175	225	250	275	0.001	-13	1000	0
	350	375	450	475	0.1			
	650	700	1100	1200	2			
TIME (Approx.)	100	125	100	125	0.001	-100	1000	0
	125	150	150	175	0.1			
	250	275	275	300	2			

* Series resistor between grid No.2 and cathode.



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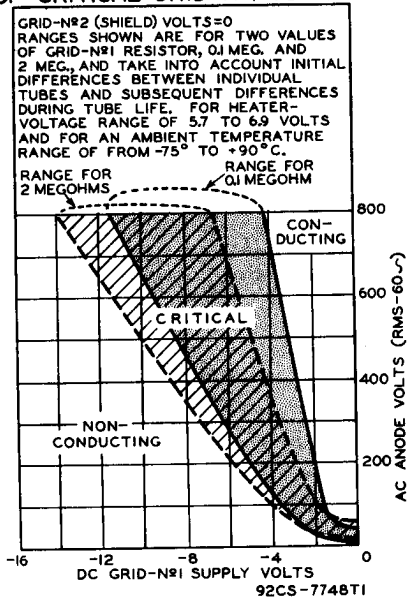
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GAS THYRATRON

OPERATIONAL RANGE OF CRITICAL GRID-N^o1 VOLTAGE

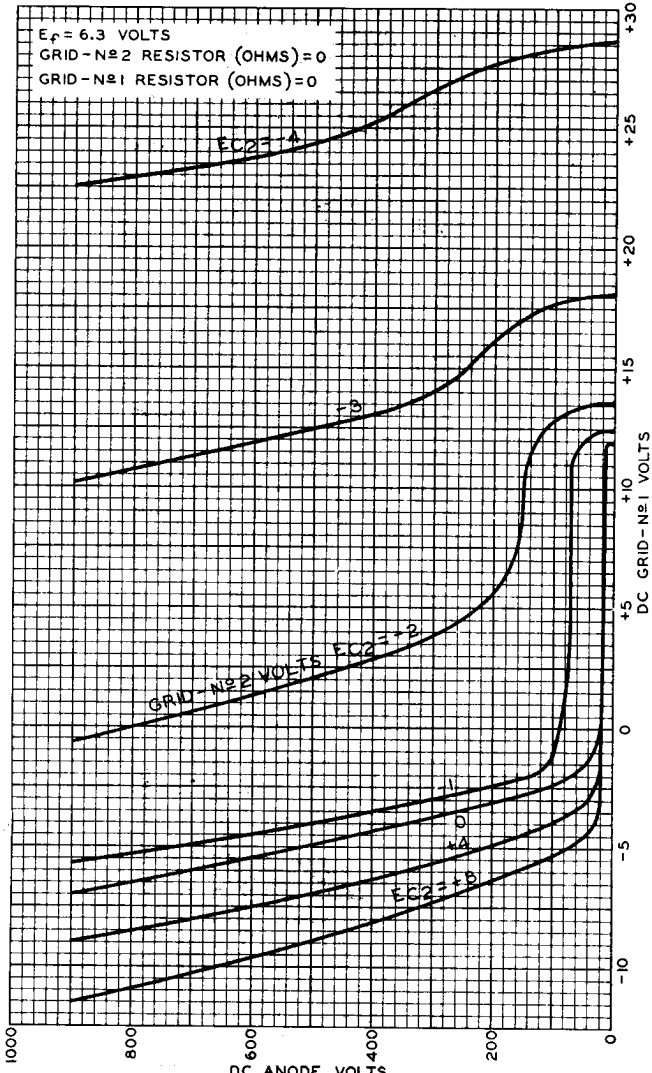




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AVERAGE CONTROL CHARACTERISTICS

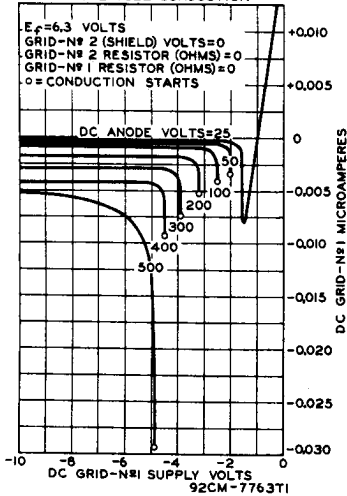




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CHARACTERISTIC CURVES

AVERAGE GRID-N#1
CHARACTERISTICS
BEFORE TUBE CONDUCTION



AVERAGE GRID-N#1
CHARACTERISTICS
DURING TUBE CONDUCTION

