



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	$\mu$ mf
Input . . . . .	5.8	$\mu$ mf
Output . . . . .	3.9	$\mu$ mf

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

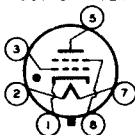
Grid-No.2 Control Ratio (Approx.) with  
grid-No.1 resistor (megohms) = 0;  
grid-No.2 resistor (megohms) = 0;  
and dc grid-No.1 volts = 0 . . . . . 650

### 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

JULY 1, 1952

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TENTATIVE DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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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

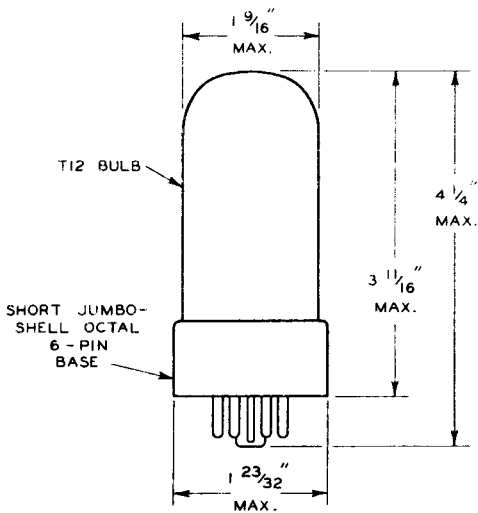
\* Averaged over any interval of 30 seconds maximum.



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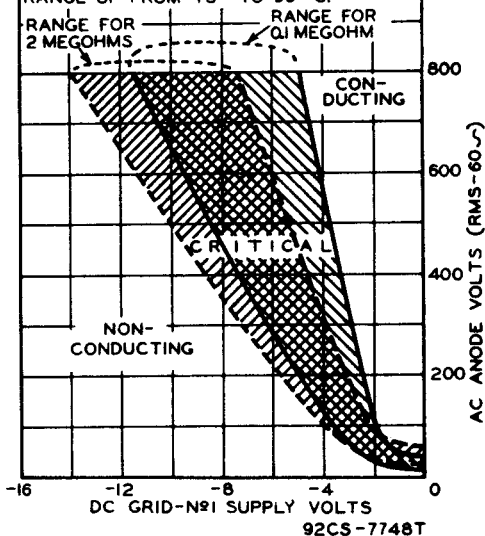


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## OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

TYPE 6012 GRID-N<sup>o</sup>2 (SHIELD) VOLTS=0  
 RANGES SHOWN ARE FOR TWO VALUES  
 OF GRID-N<sup>o</sup>1 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

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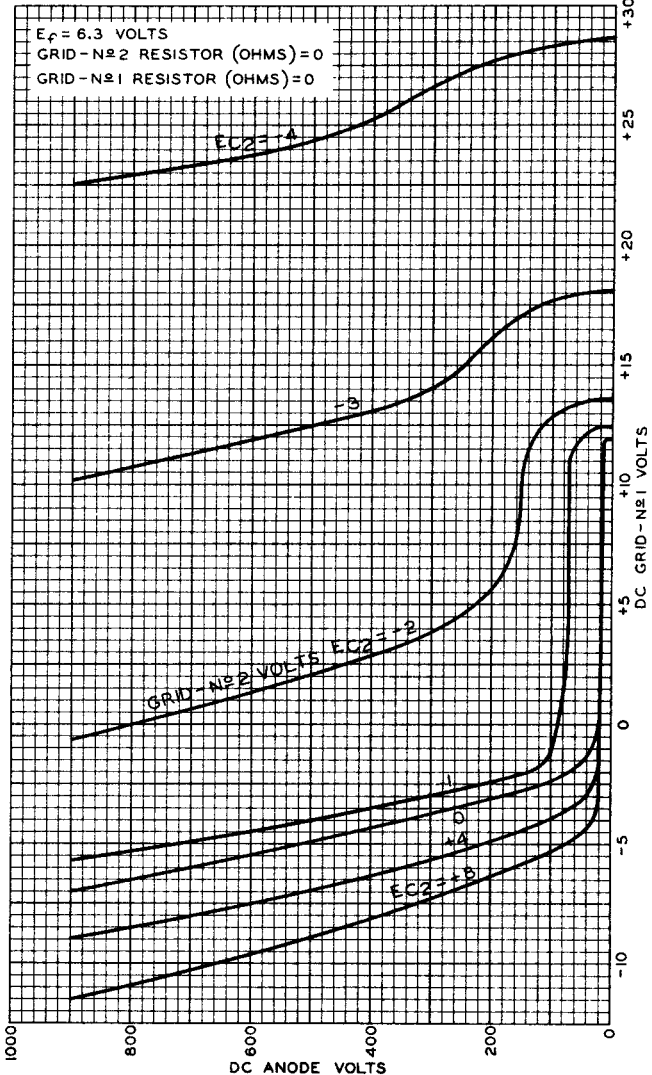
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### AVERAGE CONTROL CHARACTERISTICS



FEB. 4, 1952

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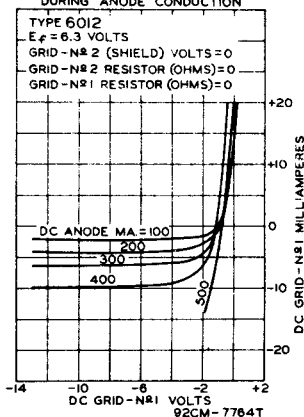
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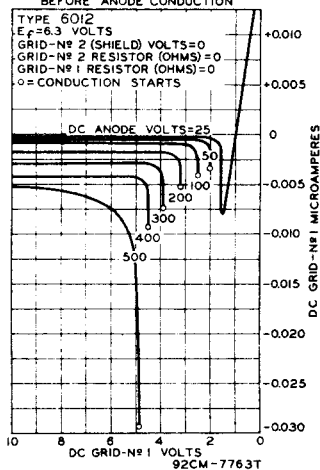
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## AVERAGE GRID CHARACTERISTICS DURING ANODE CONDUCTION



## AVERAGE GRID CHARACTERISTICS BEFORE ANODE CONDUCTION



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