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THYRATRON

MERCURY-VAPOR TRIODE

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Electrical:	<u>DATA</u>
Heater, for Unipotential Cathode:	
Voltage*	5.0 volts
Current	4.5 amp
Direct Interelectrode Capacitance:	
Grid to Anode (Approx.)	4.4 μ f
Peak Voltage Drop	16 volts
Approximate Control Characteristics:	
Anode Voltage	60 100 1000 volts
Grid Voltage	0 -1.75 -6.5 volts
Ionization Time (Approx.)	10 μ seconds
Deionization Time (Approx.)	1000 μ seconds

Mechanical:

Mounting Position	Vertical, Base Down
Overall Length	7" \pm 1/4"
Seated Length	6-3/8" \pm 1/4"
Maximum Diameter	3"
Bulb	ST-23
Cap	Medium
Base	Medium 4-Pin Bayonet

Maximum Ratings, Absolute Values:

PEAK FORWARD ANODE VOLTAGE	1000 max. volts
PEAK INVERSE ANODE VOLTAGE	1000 max. volts
GRID VOLTAGE:	
Before Conduction	-500 max. volts
During Conduction	-10 max. volts
INSTANTANEOUS ANODE CURRENT:	
Below 25 Cycles	5 max. amp
25 Cycles and Higher	15 max. amp
AVERAGE ANODE CURRENT**	2.5 max. amp
SURGE ANODE CURRENT for 0.1 sec. max.	200 max. amp
INSTANTANEOUS GRID CURRENT	1.0 max. amp
AVERAGE GRID CURRENT**	0.25 max. amp
COND.-MERCURY TEMPERATURE RANGE [▲]	40-80 $^{\circ}$ C

* Heater voltage must be applied at least 5 minutes before anode voltage is applied.

** Averaged over any 15-second interval.

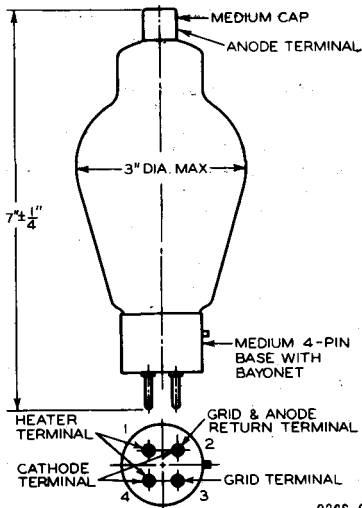
[▲] Recommended Condensed Mercury Temperature 40 $^{\circ}$ C.

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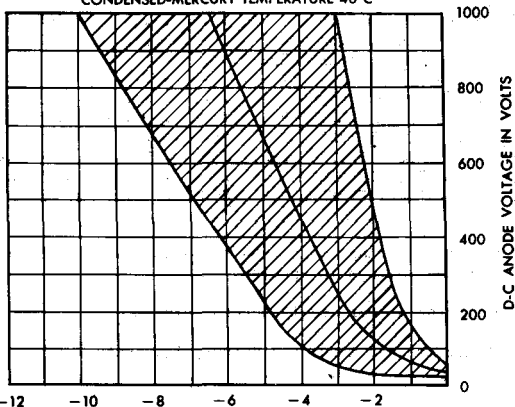
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THYRATRON



92CS-6743

TYPICAL CONTROL CHARACTERISTICS
 SHADED AREA SHOWS RANGE OF CHARACTERISTICS
 CONDENSED-MERCURY TEMPERATURE 40°C



92CS-6704 D-C GRID VOLTAGE AT START OF DISCHARGE IN VOLTS

MAY 1, 1946

TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-6743-6704



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MERCURY-VAPOR TRIODE

DATA**Electrical:**

Heater, for Unipotential Cathode:

Voltage.	5.0	volts
Current.	4.5	amp

Cathode:

Minimum Heating Time, prior to tube conduction	5	minutes
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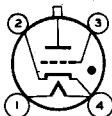
Direct Interelectrode Capacitances (Approx.):

Grid to Anode.	2.5	μ f
Grid to Cathode.	10	μ f
Ionization Time (Approx.).	10	μ sec
Deionization Time (Approx.)	1000	μ sec
Anode Voltage Drop (Approx.)	16	volts
Grid-No.1 Control Ratio (Approx.) with grid-No.1 resistor (megohms) = 0		220

Mechanical:

Mounting Position.	Vertical, Base Down
Overall Length	7" \pm 1/4"
Seated Length.	6-3/8" \pm 1/4"
Maximum Diameter	3"
Bulb	ST-23
Cap.	Medium
Base	Medium-Shell Small 4-Pin, Bayonet
Basing Designation for BOTTOM VIEW	4BL

Pin 1-Heater
Pin 2-Cathode;
Circuit
Returns



Pin 3-Grid
Pin 4-Heater,
Cathode
Cap-Anode

Maximum Ratings, Absolute Values:**PEAK ANODE VOLTAGE:**

Forward.	1000 max.	volts
Inverse.	1000 max.	volts

GRID VOLTAGE:

Before Conduction.	-500 max.	volts
During Conduction.	-10 max.	volts

CATHODE CURRENT:

Peak	15 max.	amp
Average**.	2.5 max.	amp
Fault, for 0.1 sec. maximum.	200 max.	amp

GRID CURRENT:

Average**.	+0.25 max.	amp
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COND.-MERCURY TEMPERATURE RANGE [▲]	+40 to +80	$^{\circ}$ C
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OPERATING FREQUENCY.	150 max.	cps
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** Averaged over any interval of 15 sec. max.

▲ Recommended operating temperature is 40 $^{\circ}$ C.

← Indicates a change.

MARCH 1, 1951

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

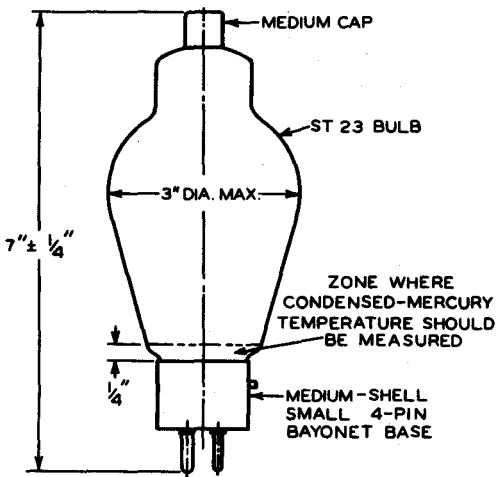
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92CS-6743R1

MARCH 1, 1951

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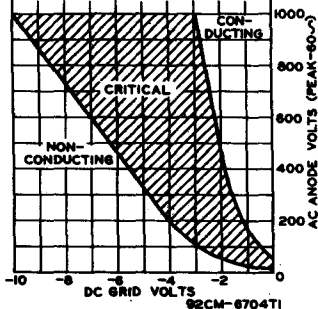
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OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

TYPE 5559

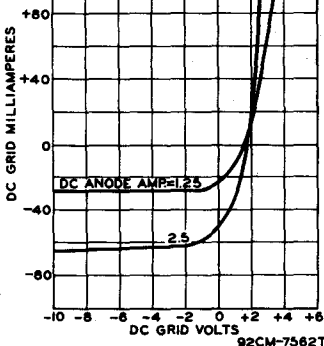
RANGE IS FOR CONDITIONS WHERE:
 $E_f = 5$ VOLTS AC $\pm 5\%$; CIRCUIT RETURNS TO PIN N $\#$ 2. THE RANGE INCLUDES INITIAL & LIFE VARIATIONS OF INDIVIDUAL TUBES, AS WELL AS CHANGE IN CHARACTERISTICS DUE TO HEATER PHASING. GRID RESISTOR (OHMS) = 0
 COND. - MERCURY TEMPERATURE = 40°C



AVERAGE GRID CHARACTERISTICS DURING ANODE CONDUCTION

TYPE 5559

$E_f = 5$ VOLTS AC
 CIRCUIT RETURNS TO PIN N $\#$ 2
 GRID RESISTOR (OHMS) = 0
 CONDENSED-MERCURY TEMPERATURE = 80°C



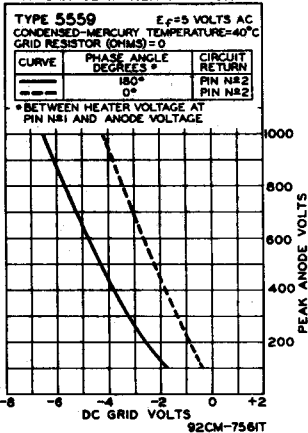
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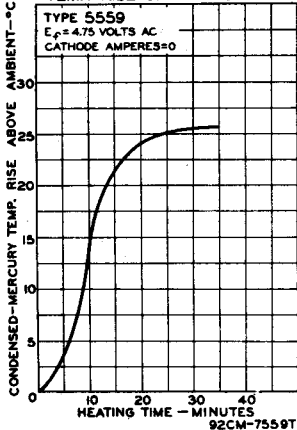
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SHIFT OF AVERAGE CONTROL CHARACTERISTIC WITH CHANGE IN HEATER PHASING



TEMP-RISE CHARACTERISTIC



MARCH 1, 1951

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CE-7561T-7559T