



5557 THYRATRON

MERCURY-VAPOR TRIODE

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DATA

Electrical:

Filament:

Voltage* 2.5 volts
Current 5.0 amp

Direct Interelectrode Capacitance:

Grid to Anode (Approx.) 4.4 μ f
Peak Voltage Drop (Approx.) 16 volts

Approximate Control Characteristics:

Anode Voltage 40 100 1000 volts
Grid Voltage 0 -2.25 -6.5 volts
Ionization Time (Approx.) 10 microseconds
Deionization Time (Approx.) 1000 microseconds

Mechanical:

Mounting Position Vertical, base down
Overall Length 6-3/8" $\pm$ 1/4"
Seated Length 5-3/4" $\pm$ 1/4"
Maximum Diameter 2-7/16"
Bulb S-19
Cap Medium
Base Medium 4-Pin, Bayonet

Maximum Ratings, Absolute Values:

PEAK FORWARD ANODE VOLTAGE 2500 max. volts
PEAK INVERSE ANODE VOLTAGE 5000 max. volts
GRID VOLTAGE:
Before Conduction -500 max. volts
During Conduction -10 max. volts
INSTANTANEOUS ANODE CURRENT:
Below 25 Cycles 1.0 max. amp
25 Cycles and Higher 2.0 max. amp
AVERAGE ANODE CURRENT** 0.5 max. amp
SURGE ANODE CURRENT for 0.1 sec. max. 40 max. amp
INSTANTANEOUS GRID CURRENT 0.25 max. amp
AVERAGE GRID CURRENT** 0.05 max. amp
COND.-MERCURY TEMP. RANGE[▲] 40 to 80 °C

* Filament voltage must be applied at least 5 seconds before anode voltage is applied.

** Averaged over any 15-second interval.

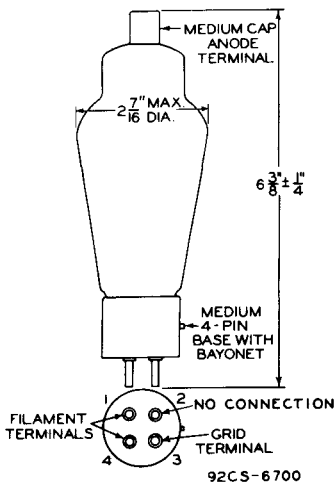
[▲] Recommended condensed-mercury temperature 40°C.

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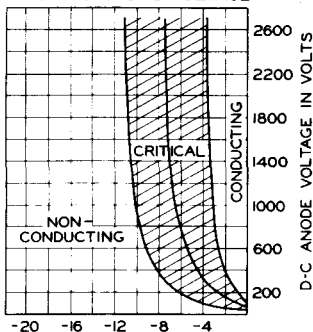


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THYRATRON



OPERATIONAL REGION OF CRITICAL GRID VOLTAGE



D-C GRID VOLTAGE AT START
OF DISCHARGE IN VOLTAGE

92CS-6744



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MERCURY-VAPOR THYRATRON

NEGATIVE-CONTROL TRIODE TYPE

GENERAL DATA**Electrical:**

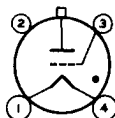
Filament, Coated:

	Min.	Av.	Max.	
Voltage.	2.38	2.5	2.62	ac or dc volts
Current at 2.5 volts.	-	5.0	5.5	amp
Minimum heating time prior to tube conduction.				5 sec
Direct Interelectrode Capacitances (Approx.): ^o				
Grid to anode.			2.5	μ f
Grid to cathode.			7	μ f
Ionization Time (Approx.).			10	μ sec
Deionization Time (Approx.).			1000	μ sec
Anode Voltage Drop (Approx.).			16	volts

Mechanical:

Operating Position.	Vertical, base down
Maximum Overall Length.	6-1/8"
Seated Length.	5-1/4" $\pm$ 1/4"
Maximum Diameter.	2-1/16"
Weight (Approx.).	3 oz
Bulb.	ST16
Cap.	Medium (JETEC No.C1-5)
Base.	Medium-Shell Small 4-Pin with Bayonet (JETEC No.A4-10)
Basing Designation for BOTTOM VIEW.	3G

Pin 1 - Filament
Pin 2 - No Connection



Pin 3 - Grid
Pin 4 - Filament
Cap - Anode

Temperature Control:

Heating--When the ambient temperature is so low that the normal rise of condensed-mercury temperature above the ambient temperature will not bring the condensed-mercury temperature up to the minimum value of the operating ranges specified under *Maximum Ratings*, some form of heat-conserving enclosure or auxiliary heater will be required.

Cooling--When the operating conditions are such that the maximum value of the operating condensed-mercury temperature is exceeded, provision should be made for forced-air cooling sufficient to prevent exceeding the maximum value.

Temperature Rise of Condensed Mercury to Equilibrium Above Ambient Temperature (Approx.):*

No load. 17.5 °C

^o Without external shield.

* With filament volts = 2.38 and no heat-conserving enclosure.



MERCURY-VAPOR THYRATRON

CONTROL SERVICE

→ Maximum Ratings, Absolute Values:

For anode-supply frequency of 60 cps

Operating Condensed-Mercury- Temperature Range

40° to 90° C 40° to 80° C 40° to 60° C

PEAK ANODE VOLTAGE:

Forward	1250 max.	2500 max.	5000 max.	volts
Inverse	1250 max.	5000 max.	10000 max.	volts

GRID VOLTAGE:

Peak or DC, before tube conduction.	-500 max.	-500 max.	-500 max.	volts
Average [▲] , during tube conduction.	-10 max.	-10 max.	-10 max.	volts

ANODE CURRENT:

Peak	3 max.	2 max.	1 max.	amp
Average [#]	1 max.	0.5 max.	0.25 max.	amp
Fault, for duration of 0.1 second maximum	40 max.	40 max.	40 max.	amp

GRID CURRENT:

Average [●] , positive with anode positive	0.05 max.	0.05 max.	0.05 max.	amp
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[▲] Averaged over one conducting period.

[#] Averaged over any interval of 15 seconds maximum.

[●] Averaged over period of grid conduction.

DIMENSIONAL OUTLINE

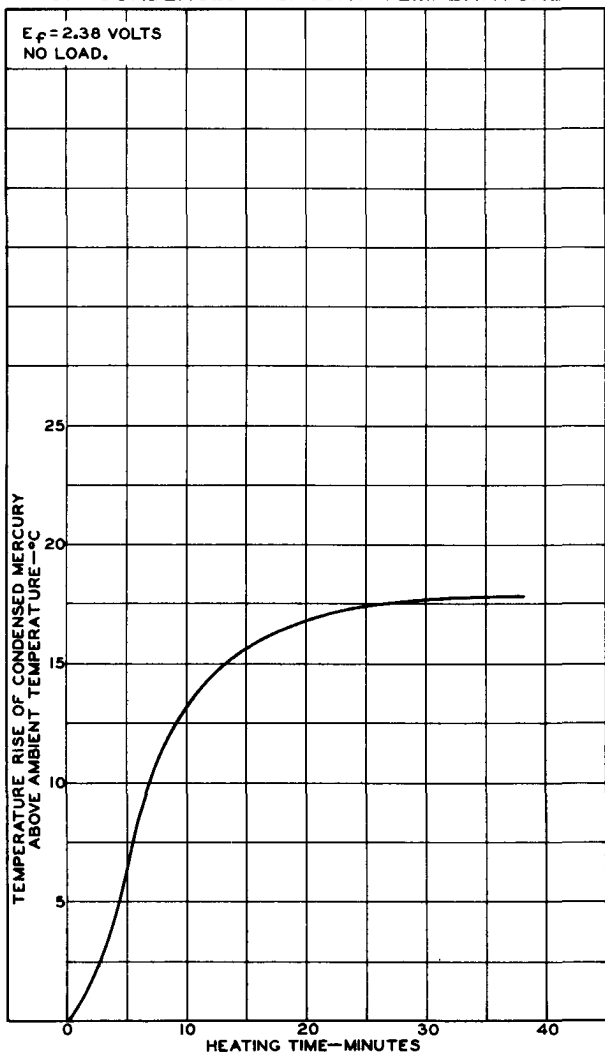
for Type 5557 is the same as that shown for Type 3C23

→ Indicates a change.



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RATE OF RISE
OF CONDENSED-MERCURY TEMPERATURE



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OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

RANGE IS FOR CONDITIONS WHERE:

$E_f = 2.5$ VOLTS AC $\pm 5\%$

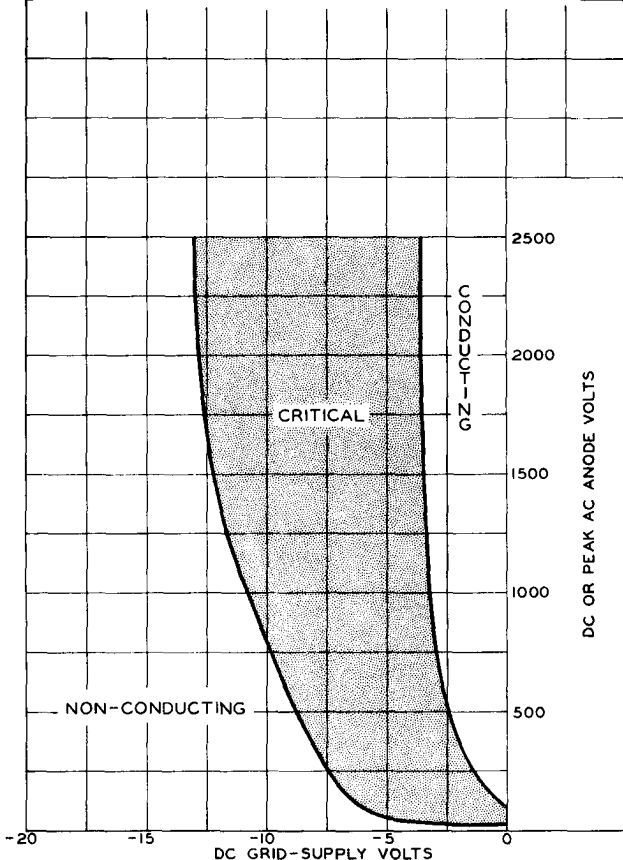
CIRCUIT RETURNS TO FILAMENT TRANSFORMER
CENTER-TAP.

FILAMENT VOLTAGE AT PIN 1 IS (+) WHEN ANODE
VOLTAGE IS (+).

THE RANGE INCLUDES INITIAL AND LIFE VARIATIONS OF
INDIVIDUAL TUBES.

GRID RESISTOR (OHMS) = 1000

CONDENSED-MERCURY-TEMPERATURE RANGE = 40 TO 80 °C



TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

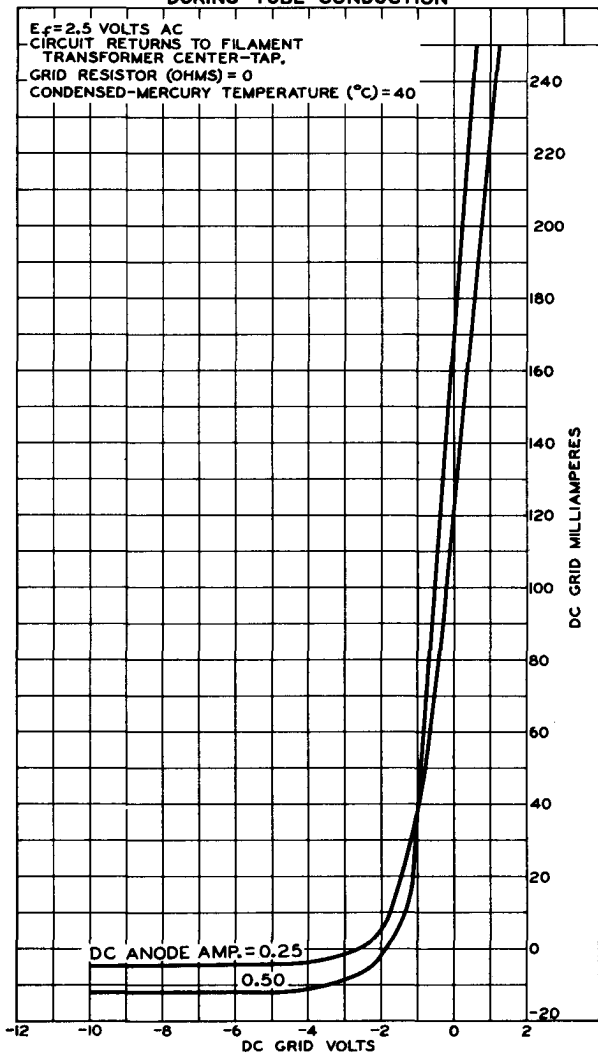
92CM-9300T



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AVERAGE GRID CHARACTERISTICS DURING TUBE CONDUCTION



TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9302T