5557
THYRATRON
MERCURY-VAPOR TRIODE

DATA

Electrical:

Filament:				
Voltage*	2.5			volts
Current	5.0			amp
Direct Interelectrode Capacitance:				
Grid to Anode (Approx.)	4.4			μμf
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" ± 1/4"
Seated Length	5-3/4" ± 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

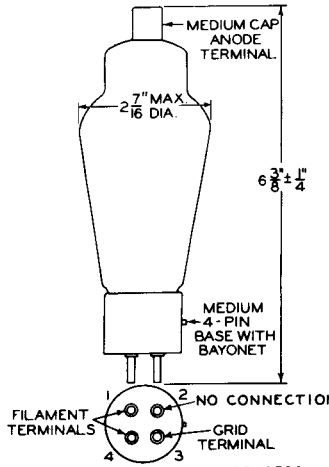
* Filament voltage must be applied at least 5 seconds before anode voltage is applied.

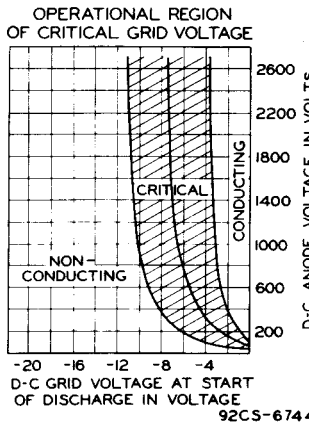
** Averaged over any 15-second interval.

▲ Recommended condensed-mercury temperature 40°C.

5557

THYRATRON





5557

MERCURY-VAPOR THYRATRON

NEGATIVE-CONTROL TRIODE TYPE

GENERAL DATA

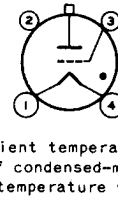
Electrical:

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	μμf
Grid to cathode			7	μμf
Ionization Time (Approx.)			10	μsec
Deionization Time (Approx.)			1000	μsec
Anode Voltage Drop (Approx.)			16	volts

Mechanical:

Operating Position	Vertical, base down
Maximum Overall Length	6-1/8"
Seated Length	5-1/4" ± 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.

RCA

5557

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

▲ Averaged over one conducting period.

\# Averaged over any interval of 15 seconds maximum.

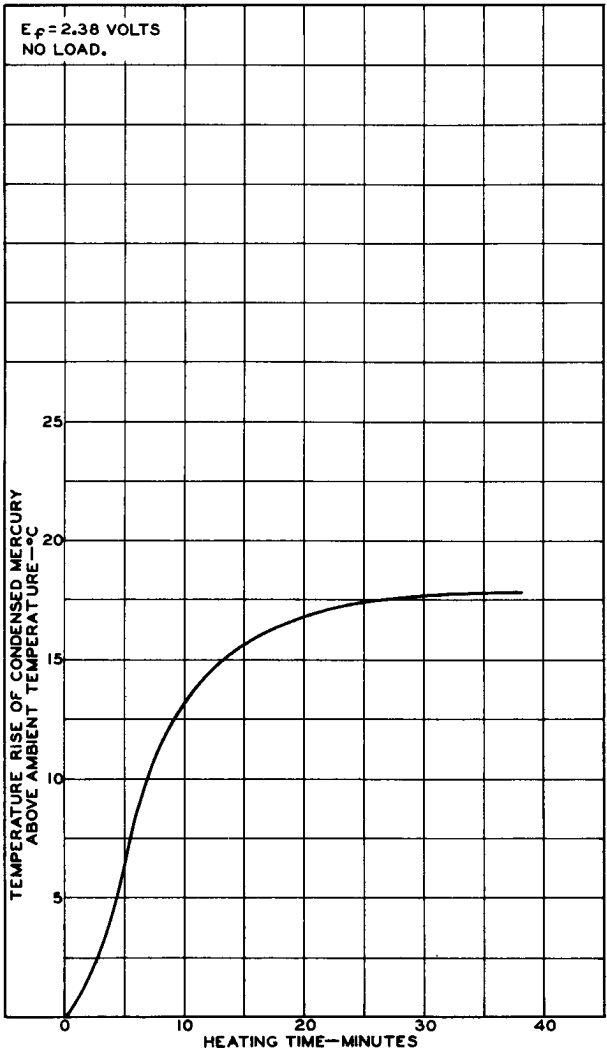
♦ Averaged over period of grid conduction.

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

→ Indicates a change.

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

5557
RATE OF RISE OF CONDENSED-MERCURY TEMPERATURE



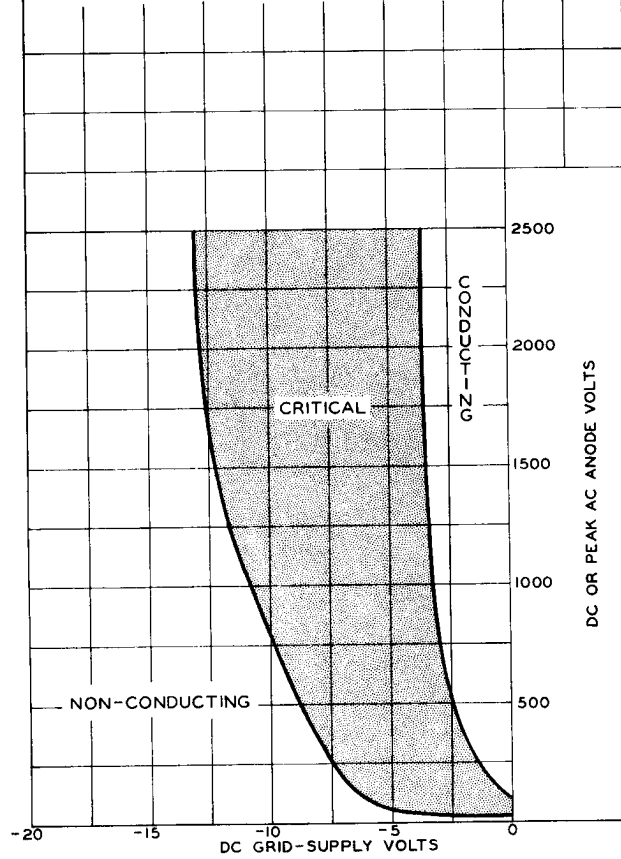
TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-9301T

5557

OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

RANGE IS FOR CONDITIONS WHERE:
E_f = 2.5 VOLTS AC ± 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



92CM-9300T

5557

AVERAGE GRID CHARACTERISTICS
DURING TUBE CONDUCTION