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5560

# THYRATRON

MERCURY-VAPOR TETRODE

## DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage. . . . .	5.5 <sup>□</sup>	5.0	. . . . .	volts
Current. . . . .	5.0 <sup>□</sup>	4.5	. . . . .	.amp

Cathode:

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

Grid No.1 to Anode . . . . .	0.2	. . . . .	μmf
Grid No.1 to Cathode . . . . .	4.4	. . . . .	μmf ←
Ionization Time (Approx.) . . . . .	10	. . . . .	μsec
Deionization Time (Approx.) . . . . .	1000	. . . . .	μsec
Anode Voltage Drop (Approx.) . . . . .	16	. . . . .	volts

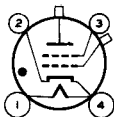
Grid-No.1 Control Ratio (Approx.) with grid-No.1 resistor (ohms) = 0; grid-No.1 and grid-No.2 volts = 0 . . . . . 170 ←

Grid-No.2 Control Ratio (Approx.) with grid No.1 resistor (ohms) = 0; grid-No.1 and grid-No.2 volts = 0 . . . . . 300 ←

### Mechanical:

Mounting Position. . . . .	Vertical, Base Down
Overall Length . . . . .	7-11/16" ± 1/4" ←
Seated Length. . . . .	7-1/16" ± 1/4" ←
Greatest Radius. . . . .	2-1/4" ←
Bulb . . . . .	ST-23
Caps (Two) . . . . .	Medium
Base . . . . .	Medium-Shell Small 4-Pin, Bayonet
Basing Designation for BOTTOM VIEW . . . . .	4CD

- Pin 1-Heater
- Pin 2-Cathode; Circuit Returns
- Pin 3-Grid No.2



- Pin 4-Heater, Cathode
- Top Cap - Anode
- Side Cap - Grid No.1

### Maximum Ratings, Absolute Values:

PEAK ANODE VOLTAGE:			
Forward. . . . .	1000 max.	volts	
Inverse. . . . .	1000 max.	volts	
GRID-No.2 (SHIELD-GRID) VOLTAGE:			
Before Conduction. . . . .	-300 max.	volts	
During Conduction. . . . .	-5 max.	volts	
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Before Conduction. . . . .	-1000 max.	volts	
During Conduction. . . . .	-10 max.	volts	←
CATHODE CURRENT:			
Peak . . . . .	30 max. <sup>□</sup>	15 max.	amp
Average** . . . . .	0.5 max. <sup>□</sup>	2.5 max.	amp
Fault, for 0.1 sec. maximum. . . . .		200 max.	amp

□ \*\*: See next page.

← Indicates a change.

5560



5560

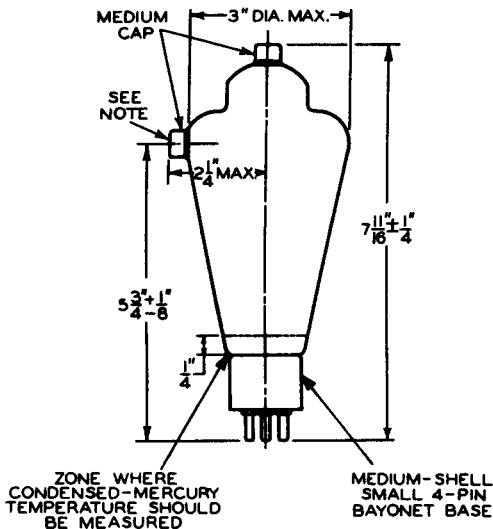
# THYRATRON

GRID-No.2 CURRENT:		
Average**	0.25 max.	amp
GRID No.1 CURRENT:		
Average**	0.25 max.	amp
COND.-MERCURY TEMPERATURE RANGE <sup>▲</sup>	+40 to +80	°C
OPERATING FREQUENCY	150 max.	cps

□ Applies when this tube is used for ignitor firing.

\*\* Averaged over any interval of 15 sec. max.

▲ Recommended operating temperature is 40°C.



92CS-6742R1

NOTE: THE PLANE THROUGH TUBE AXIS AND CENTER OF GRID-No.1 CAP IS  $45^{\circ} \pm 5^{\circ}$  FROM THE PLANE THROUGH THE TUBE AXIS AND CENTER OF BAYONET PIN. GRID-No.1 CAP IS ON SAME SIDE AS PIN No.3.

TEMPERATURE-RISE CHARACTERISTIC of the 5560 is the same as that shown for Type 5559



5560

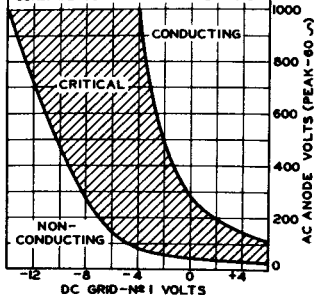
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5560

## OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

### TYPE 5560

RANGE IS FOR CONDITIONS WHERE:  
 $E_f = 5$  VOLTS AC  $\pm 5\%$ ; GRID-NR 2 (SHIELD)  
 VOLTS = 0; CIRCUIT RETURNS TO PIN NR  
 2. THE RANGE INCLUDES INITIAL AND  
 LIFE VARIATIONS OF INDIVIDUAL TUBES,  
 AS WELL AS CHANGE IN CHARACTERIS-  
 TICS DUE TO HEATER PHASING.  
 GRID-NR 1 RESISTOR (OHMS) = 0  
 COND-MERCURY TEMPERATURE =  $40^\circ\text{C}$



92CM-6705T1

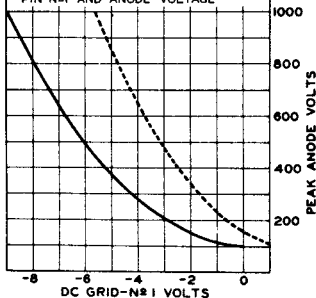
## SHIFT OF AVERAGE CONTROL CHARACTERISTIC WITH CHANGE IN HEATER PHASING

### TYPE 5560

$E_f = 5$  VOLTS AC  
 GRID-NR 2 (SHIELD) VOLTS = 0  
 CONDENSED-MERCURY TEMPERATURE =  $40^\circ\text{C}$   
 GRID-NR 1 RESISTOR (OHMS) = 0

CURVE	PHASE ANGLE DEGREES *	CIRCUIT RETURN
—	$180^\circ$	PIN NR 2
- - -	$0^\circ$	PIN NR 2

\* BETWEEN HEATER VOLTAGE AT  
 PIN NR 1 AND ANODE VOLTAGE



92CM-7568T

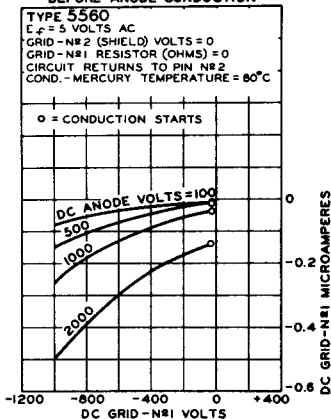
5560



5560

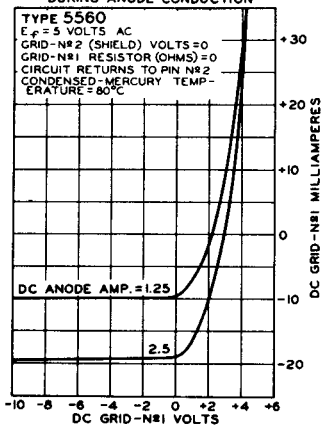
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## AVERAGE GRID CHARACTERISTICS BEFORE ANODE CONDUCTION



92CM-7556T

## AVERAGE GRID CHARACTERISTICS DURING ANODE CONDUCTION



92CM-7570T