5563
THYRATRON
MERCURY-VAPOR TRIODE

GENERAL DATA

Electrical:

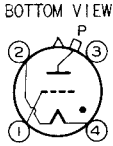
Filament, Coated:		
Voltage	5	volts
Current	10	amp
Minimum Heating Time:		
At initial installation without anode voltage, for proper distribution of condensed mercury	15	minutes
During subsequent operation and prior to conduction, for bringing condensed-mercury temperature within operating range.	Not less than 60 seconds to provide adequate filament heating; longer, if required by low ambient temperatures.	
Direct Interelectrode Capacitances:[o]		
Grid to Anode	10 max.	μμf
Grid to Cathode	20 max.	μμf
Ionization Time	10 approx.	μseconds
Deionization Time	1000 approx.	μseconds
Anode Voltage Drop	15 approx.	volts
Grid Control Ratio[▲]	200 approx.	

[o] With no external shield.

Mechanical:

Mounting Position	Vertical, base down
Overall Length	10-1/8" to 11-1/16"
Maximum Diameter	3-7/8"
Cooling	Convection
Bulb	T-24
Cap	Skirted Medium No. 3985
Base	Medium-Metal-Shell Jumbo 4-Pin, Bayonet

BOTTOM VIEW



Pin 1 - Grid
Pin 2 - Filament, Internal Shield
Pin 3 - No Connection
Pin 4 - Filament
Cap - Anode

Maximum Ratings, *Absolute Values:*
For Anode-Supply Frequencies between 25 and 150 cps

COND. MERCURY TEMP. RANGE[□]	25 - 55	25 - 50	°C
PEAK ANODE VOLTAGE:			
Forward	10000 max.	15000 max.	volts
Inverse	10000 max.	15000 max.	volts
GRID VOLTAGE:			
Before Anode Conduction (Peak or DC)	-500 max.	-500 max.	volts
During Anode Conduction (Average)[●]	-10 max.	-10 max.	volts

▲, □, ●: See next page.

5563

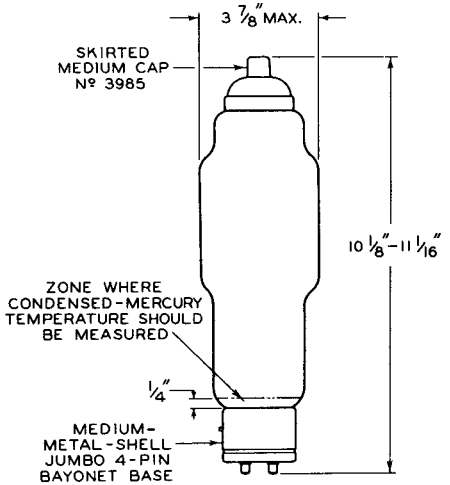
5563
THYRATRON

CATHODE CURRENT:			
Peak	10 max.	6.4 max.	amp
Average	1.8 max.	1.6 max.	amp
Surge, for max. duration of 0.1 second	200 max.	200 max.	amp
Averaging Time	1	1	cycle
GRID CURRENT:			
Peak	+1 max.	+1 max.	amp
Average	+0.1 max.	+0.1 max.	amp
Averaging Time	1	1	cycle
Maximum Circuit Values:			
Grid-Circuit Resistance	0.1 max.	0.1 max.	megohm

▲ For conditions with 0.1-megohm grid resistor, circuit returns to pin No. 2 as datum of potential, and filament voltage at pin No. 4 180° out of phase with the anode voltage.

□ Recommended operating value is 40° ± 5°C.

● Averaged over one conducting cycle.



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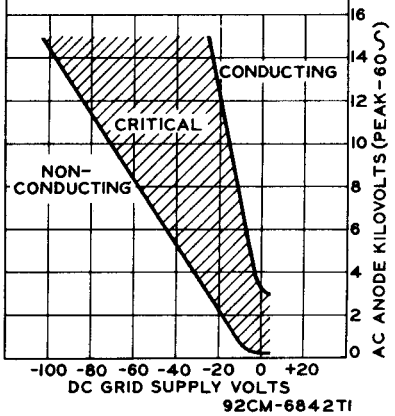
5563
THYRATRON

OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

TYPE 5563

RANGE IS FOR CONDITIONS WHERE:

E_f = 5 VOLTS AC ± 5%; CIRCUIT RETURNS TO PIN Nº2; FIL. VOLTAGE AT PIN Nº4 IS (-) WHEN ANODE VOLTAGE IS (+). THE RANGE INCLUDES INITIAL & LIFE VARIATIONS OF INDIVIDUAL TUBES. GRID RESISTOR = 10000 TO 100000 OHMS. COND. MERCURY TEMPERATURE = 25° TO 50°C.



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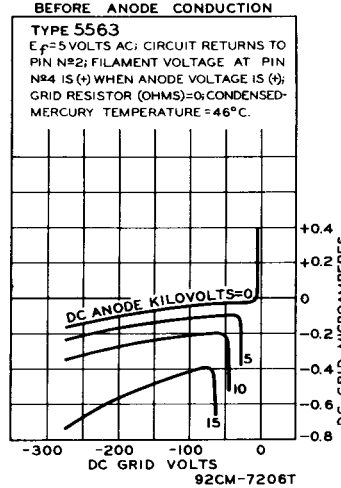
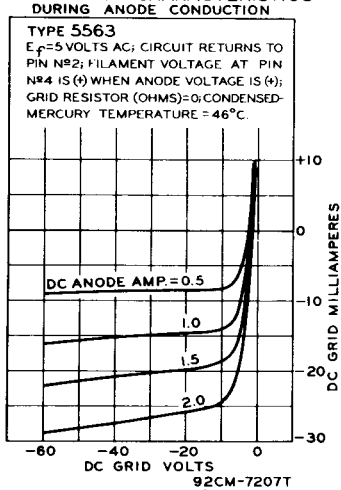
5563

THYRATRON

AVERAGE GRID CHARACTERISTICS
BEFORE ANODE CONDUCTION



AVERAGE GRID CHARACTERISTICS
DURING ANODE CONDUCTION



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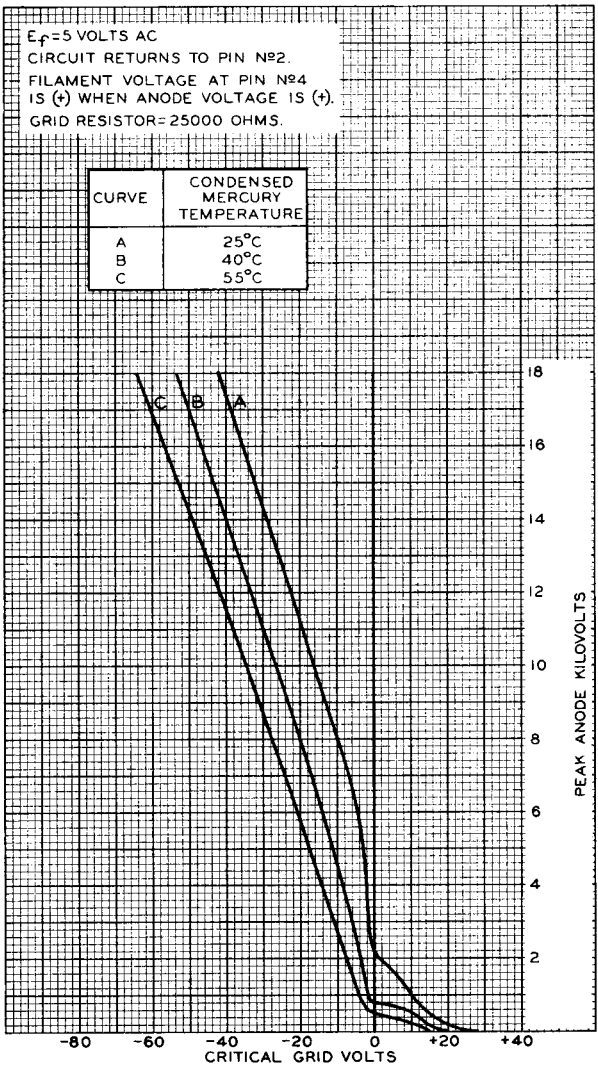
AVERAGE CONTROL CHARACTERISTICS



5563

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5563

SHIFT OF AVERAGE CONTROL CHARACTERISTICS WITH CHANGE IN FILAMENT PHASING AND CIRCUIT RETURN

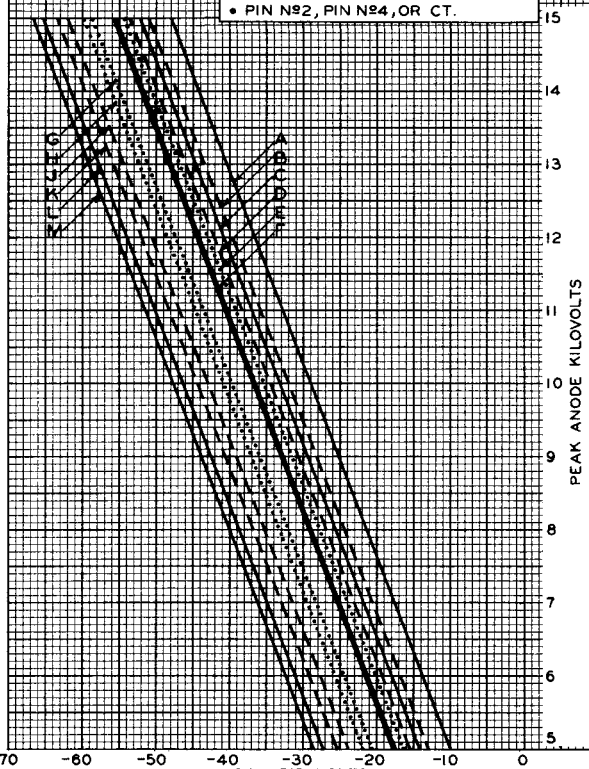
E_f=5 VOLTS AC

CURVE	PHASE ANGLE DEGREES*	CIRCUIT RETURN	CURVE	PHASE ANGLE DEGREES*	CIRCUIT RETURN
A ——	0	PIN N°2	G ·····	135	PIN N°4
B – – –	0	CT▫	H ·····	180	PIN N°4
C ——	45	PIN N°2	J – – –	135	CT▫
D – – –	45	CT▫	K – – –	180	CT▫
E ·····	0	PIN N°4	L ——	135	PIN N°2
F ——	90	ANY•	M ——	180	PIN N°2

* BETWEEN FILAMENT VOLTAGE AT PIN N°4 AND ANODE VOLTAGE

▫ CENTER TAP OF FILAMENT TRANSFORMER

• PIN N°2, PIN N°4, OR CT.



MAY 17, 1949

TUBE DEPARTMENT

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7285

5563

OPERATION CHARACTERISTICS