

6SA7
6SA7-GT/G

6SA7, 6SA7-GT/G

PENTAGRID CONVERTER

Heater	Coated Unipotential Cathode	
Voltage	6.3	a-c or d-c volts
Current	0.3	amp.
Direct Interelectrode Capacitances:	6SA7	6SA7-GT/G
Grid #3 to All Other Electrodes (R-F Input)	9.5 [▲]	11 ^{▲▲} μ f
Plate to All Other Electrodes (Mixer Output)	12 [▲]	11 ^{▲▲} μ f
Grid #1 to All Other Electrodes (Osc. Input)	7 [▲]	8 ^{▲▲} μ f
Grid #3 to Plate	0.13 max. [▲]	0.5 max. ^{▲▲} μ f
Grid #3 to Grid #1	0.15 max. [▲]	0.4 max. ^{▲▲} μ f
Grid #1 to Plate	0.06 max. [▲]	0.2 max. ^{▲▲} μ f
Grid #1 to Shell, Grid #5, and All Other Electrodes except Cathode	4.4	- μ f
Grid #1 to All Other Electrodes except Cathode & Grid #5	-	5 μ f
Grid #1 to Cathode	2.6	- μ f
Grid #1 to Cathode & Grid #5	-	3 μ f
Cathode to Shell, Grid #5, and All Other Electrodes except Grid #1	5	- μ f
Cathode and Grid #5 to All Other Electrodes except Grid #1	-	14 μ f
Maximum Overall Length	2-5/8"	3-5/16"
Maximum Seated Height	2-1/16"	2-3/4"
Maximum Diameter	1-5/16"	1-5/16"
Bulb	Metal Shell MT-8	T-9
Base	Small Wafer Octal 8-Pin	Intermed. Sh. Octal 8-Pin
Pin 1	6SA7, Shell, Grid #5 6SA7-GT/G, No Conn.	
Pin 2	Heater	
Pin 3	Plate	
Pin 4	Grids #2 & #4	
Pin 5	Grid #1	
Pin 6	6SA7, Cathode 6SA7-GT/G, Cathode & Grid #5	
Pin 7	Heater	
Pin 8	Grid #3	
Mounting Position	Any	



Maximum And Minimum Ratings Are Design-Center Values

CONVERTER SERVICE

Plate Voltage	300 max. volts
Grids #2 & #4 Voltage	100 max. volts
Grids #2 & #4 Supply Voltage	300 max. volts
Grid #3 Voltage *	0 min. volts
Plate Dissipation	1.0 max. watt
Screen Dissipation	1.0 max. watt
Total Cathode Current	14 max. ma.

- In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.
- ▲▲ With shell connected to cathode.
- * With external shield connected to cathode.
- For self-excited oscillator.
- ← Indicates a change.

Jan. 1, 1943

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA



6SA7, 6SA7-GT/G PENTAGRID CONVERTER

(continued from preceding page)

Characteristics:

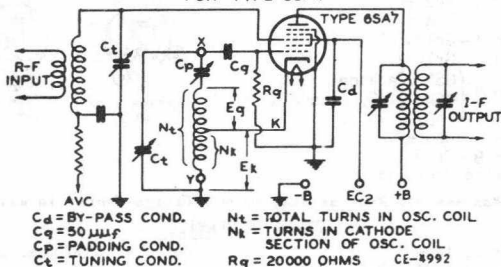
	Self-excitation*		Separate Excitation		
Plate Voltage	100	250	100	250	volts
Grids #2 & #4 Volt.	100	100	100	100	volts
Grid #3 (Control) Volt.	0	0	-2	-2	volts
Grid #1 Resistor	20000	20000	20000	20000	ohms
Plate Res. (Approx.)	0.5	1.0	0.5	1.0	megohm
Conversion Transcond.	425	450	425	450	μmhos
Conversion Transcond. (Approx.) †	2	2	2	2	μmhos
Plate Current	3.3	3.5	3.3	3.5	ma.
Grids #2 & #4 Current	8.5	8.5	8.5	8.5	ma.
Grid #1 Current	0.5	0.5	0.5	0.5	ma.
Total Cathode Current	12.3	12.5	12.3	12.5	ma.

NOTE: The transconductance between Grid #1 and Grids #2 & #4 connected to plate (not oscillating) is approximately 4500 μmhos under the following conditions: Grids #1, #3, and shell at 0 volts; Grids #2 & #4 and plate at 100 volts.

* Characteristics are approximate only and are shown for a Hartley circuit with a feedback of approximately 2 volts peak in the cathode circuit.

† With Grid #3 bias of -35 volts.

TYPICAL SELF-EXCITED CONVERTER CIRCUIT FOR TYPE 6SA7

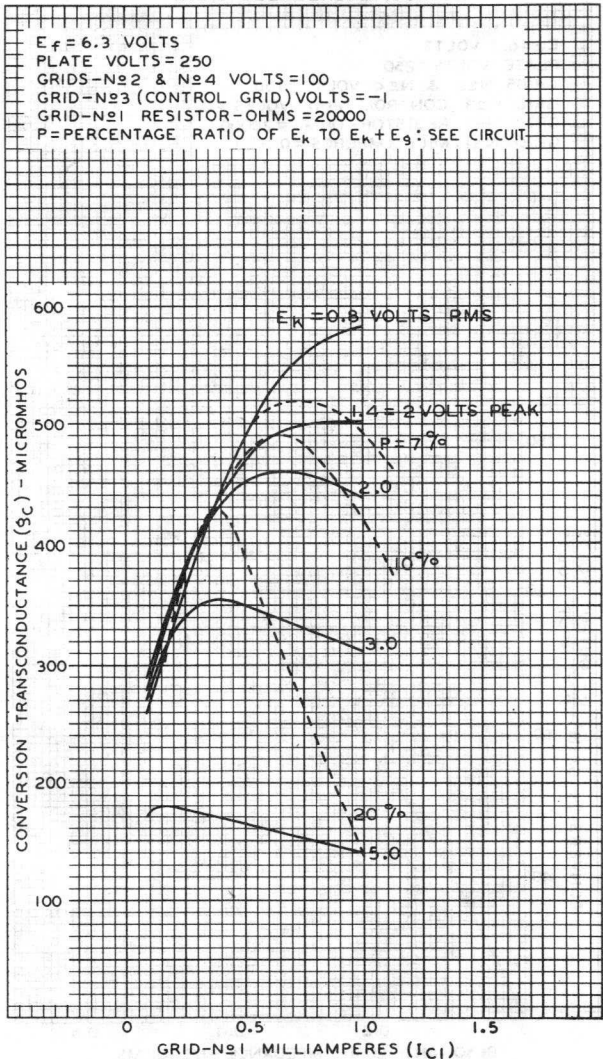


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6SA7

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OPERATION CHARACTERISTICS
WITH SELF-EXCITATION

NOV. 2, 1938

RCA RADOTRON DIVISION
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92C-4993

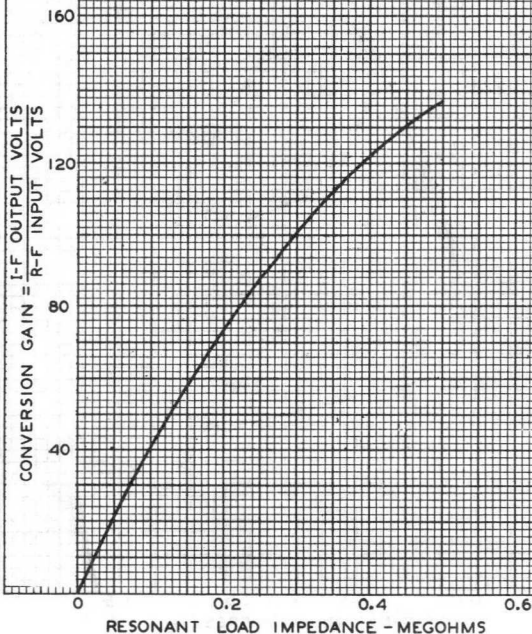
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6SA7

OPERATION CHARACTERISTIC
WITH SELF-EXCITATION

$E_f = 6.3$ VOLTS
PLATE VOLTS = 250
GRIDS N $\circ$ 2 & N $\circ$ 4 VOLTS = 100
GRID N $\circ$ 3 (CONTROL GRID) VOLTS = 0
GRID N $\circ$ 1 RESISTOR - OHMS = 20000
GRID N $\circ$ 1 MILLIAMPERES = 0.5

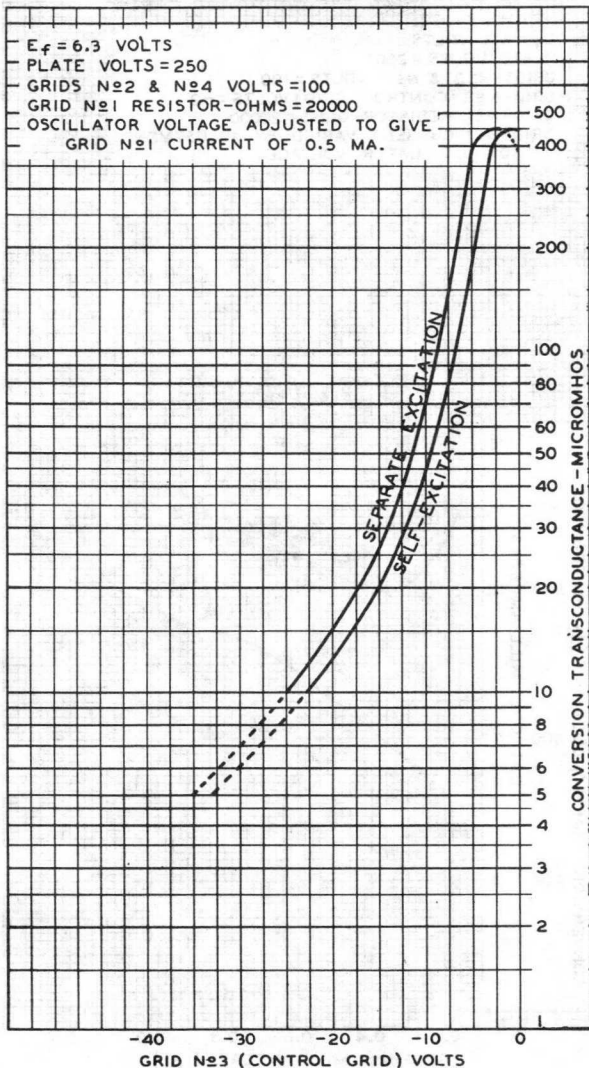




6SA7

6SA7

OPERATION CHARACTERISTICS



OCT. 25, 1938

RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

92C-4989

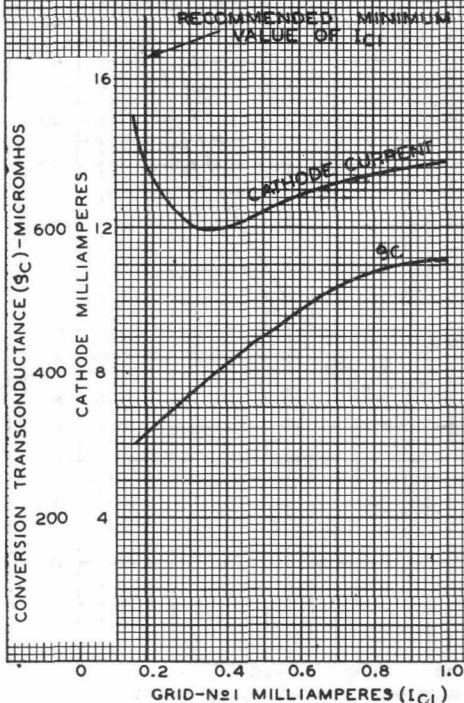
6SA7



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OPERATION CHARACTERISTICS WITH SEPARATE OSCILLATOR EXCITATION

$E_f = 6.3$ VOLTS
 PLATE VOLTS = 250
 GRIDS-№2 & №4 VOLTS = 100
 GRID-№3 (CONTROL GRID) VOLTS = -2
 GRID-№1 RESISTOR-OHMS = 20000
 GRID-№1 CURRENT VARIED BY ADJUSTMENT
 OF OSCILLATOR VOLTAGE



APR. 24, 1941

 RCA RADIOTRON DIVISION
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92C-4990RI