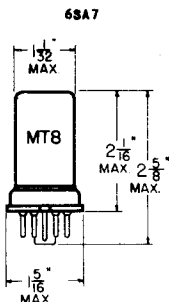
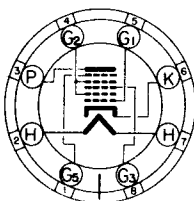


TUNG-SOL

HEPTODE

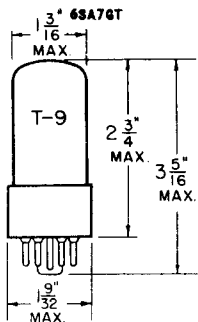


METAL SHELL

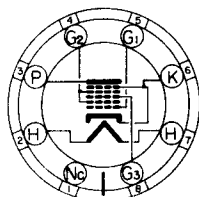


BOTTOM VIEW

SMALL WAFER
8 PIN OCTAL BASE



GLASS BULB



BOTTOM VIEW

INTERMEDIATE SHELL
8 PIN OCTAL BASE

COATED UNIPOTENTIAL CATHODE

HEATER

6.3 VOLTS 300 MA.

AC OR DC

ANY MOUNTING POSITION

THE 6SA7 AND 6SA7GT ARE PENTAGRID CONVERTERS DESIGNED TO MINIMIZE FREQUENCY DRIFT. THEY ARE INTENDED FOR SERVICE AS COMBINED OSCILLATORS AND MIXERS IN AC, STORAGE BATTERY, AND AC/DC OPERATED SUPERHETERODYNES.

DIRECT INTERELECTRODE CAPACITANCES

	6SA7	6SA7GT	
RF INPUT: G ₃ TO (H+K+G ₁ +G ₂ +G ₄ +G ₅ +P)	9.5 ^A	11 ^B	μuf
OSC. INPUT: G ₁ TO (H+K+G ₂ +G ₃ +G ₄ +G ₅ +P)	7 ^A	8 ^B	μuf
MIXER OUTPUT: P TO (H+K+G ₁ +G ₂ +G ₃ +G ₄ +G ₅)	12 ^A	11 ^B	μuf
GRID #3 TO PLATE: (G ₃ TO P) MAX.	0.13 ^A	0.5 ^B	μuf
GRID #3 TO GRID #1: (G ₃ TO G ₁) MAX.	0.15 ^A	0.4 ^B	μuf
GRID #1 TO PLATE: (G ₁ TO P) MAX.	0.06 ^A	0.2 ^B	μuf
GRID #1 TO ALL EXCEPT CATHODE: G ₁ TO (H+G ₂ +G ₃ +G ₄ +G ₅ +P)	4.4	—	μuf
GRID #1 TO ALL EXCEPT CATHODE & GRID #5: G ₁ TO (H+G ₂ +G ₃ +P)	—	5	μuf
GRID #1 TO CATHODE: (G ₁ TO K)	2.6	—	μuf
GRID #1 TO CATHODE AND GRID #5: (G ₁ TO K & G ₅)	—	3	μuf
CATHODE TO ALL EXCEPT GRID #1: K TO (H+G ₂ +G ₃ +G ₄ +G ₅ +P)	5	—	μuf
CATHODE AND GRID #5 TO ALL EXCEPT GRID #1: K & G ₅ TO (H+G ₂ +G ₃ +P)	—	14	μuf

^A WITH SHELL CONNECTED TO CATHODE.

^B WITH EXTERNAL SHIELD CONNECTED TO CATHODE.

CONTINUED ON FOLLOWING PAGE

→ INDICATES A CHANGE OR ADDITION.

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS

INTERPRETED ACCORDING TO RMA STANDARD M8-210

MAXIMUM HEATER VOLTAGE	6.3	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE	90	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM GRIDS #2 & #4 VOLTAGE	100	VOLTS
MAXIMUM GRIDS #2 & #4 SUPPLY VOLTAGE	300	VOLTS
MINIMUM GRID #3 VOLTAGE ^C	0	VOLTS
MAXIMUM PLATE DISSIPATION	1.0	WATT
MAXIMUM GRIDS #2 & #4 DISSIPATION	1.0	WATT
MAXIMUM CATHODE CURRENT	14	MA.

^CFOR SELF-EXCITED OSCILLATOR.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CONVERTER SERVICE

	SELF EXCITATION ^D		SEPARATE EXCITATION		
HEATER VOLTAGE	6.3	6.3	6.3	6.3	VOLTS
HEATER CURRENT	300	300	300	300	MA.
PLATE VOLTAGE	100	250	100	250	VOLTS
GRIDS #2 & #4 VOLTAGE	100	100	100	100	VOLTS
GRID #3 VOLTAGE	0	0	-2	-2	VOLTS
GRID #1 RESISTOR	20 000	20 000	20 000	20 000	OHMS
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.
PLATE RESISTANCE (APPROX.)	0.5	1.0	0.5	1.0	MEGOHM
CONVERSION TRANSCONDUCTANCE:					
WITH $E_{g3} = -2$ VOLTS	425	450	425	450	μ MHOS
WITH $E_{g3} = -6$ VOLTS	---	---	310	325	μ MHOS
WITH $E_{g3} = -10$ VOLTS	---	---	75	80	μ MHOS
WITH $E_{g3} = -35$ VOLTS (APPROX.)	2	2	2	2	μ MHOS

^DHARTLEY OSCILLATOR CIRCUIT WITH A FEEDBACK OF APPROXIMATELY 2 VOLTS PEAK IN THE CATHODE CIRCUIT. VALUES ARE APPROXIMATE.

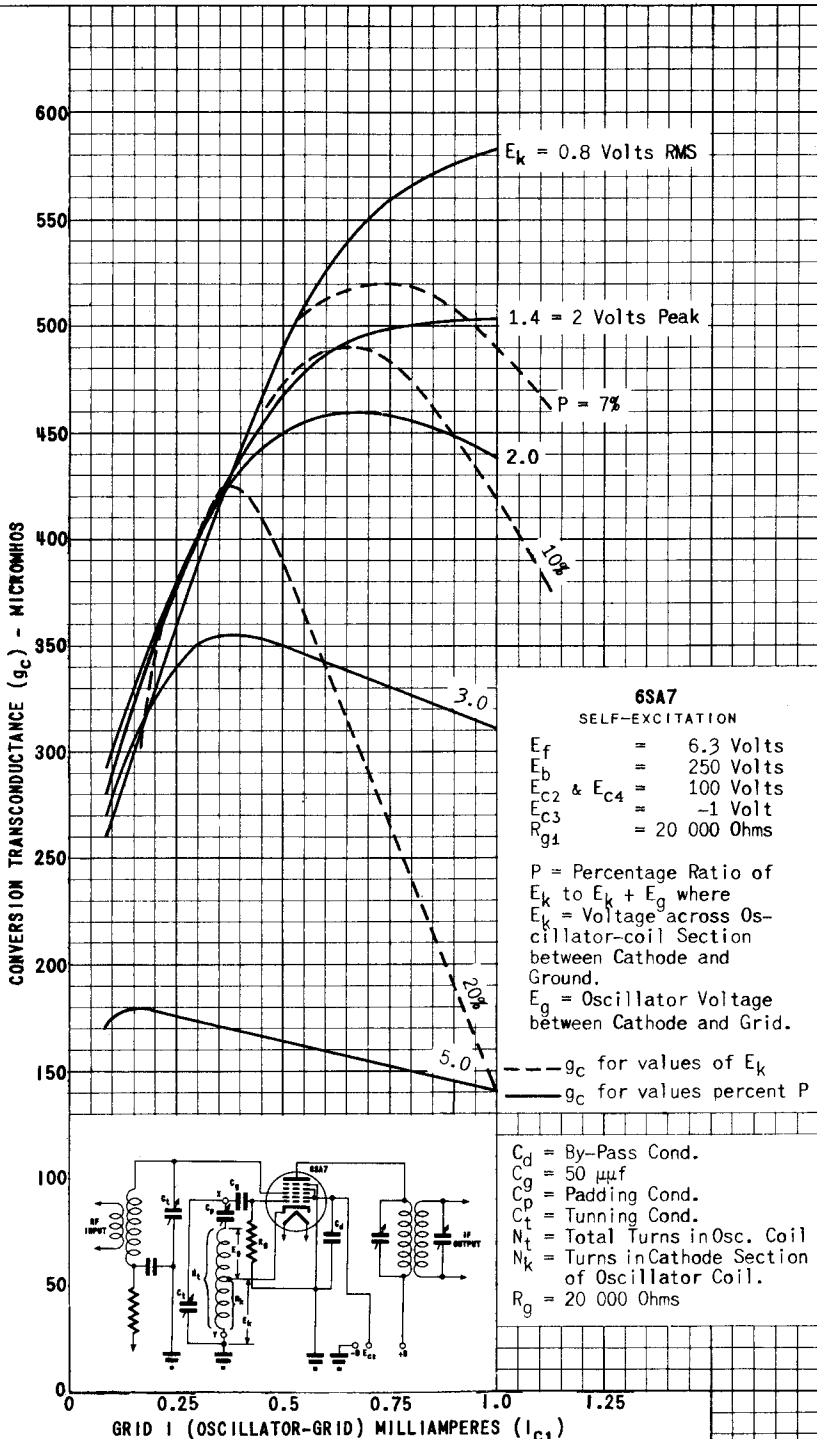
OSCILLATOR TRANSCONDUCTANCE

NOT OSCILLATING

GRID #3 VOLTAGE	0	VOLTS
GRID #1 VOLTAGE	0	VOLTS
GRIDS #2 & 4 CONNECTED TO PLATE	100	VOLTS
TRANSCONDUCTANCE BETWEEN GRID #1 AND GRIDS #2 & 4 CONNECTED TO PLATE	4 500	μ MHOS

SIMILAR TYPE REFERENCE: Ratings and characteristics somewhat similar to 7Q7.

→ INDICATES A CHANGE OR ADDITION.



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6SA7, 6SA7GT

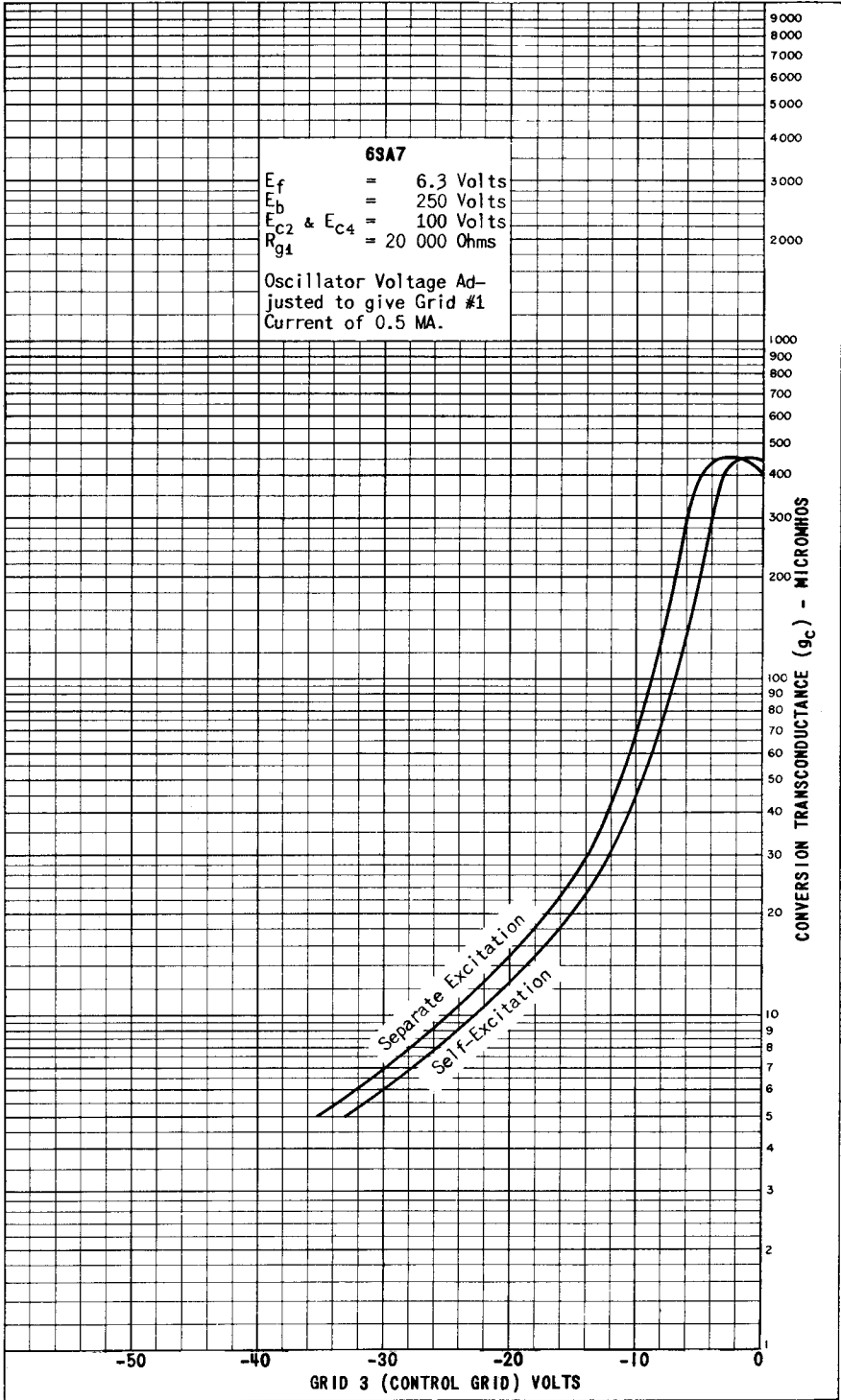
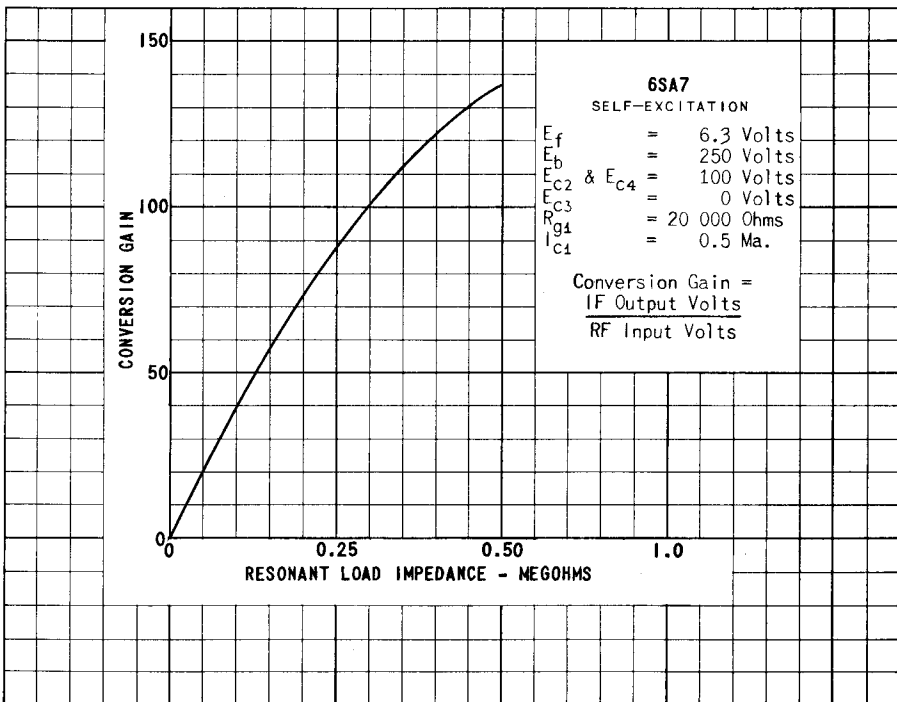
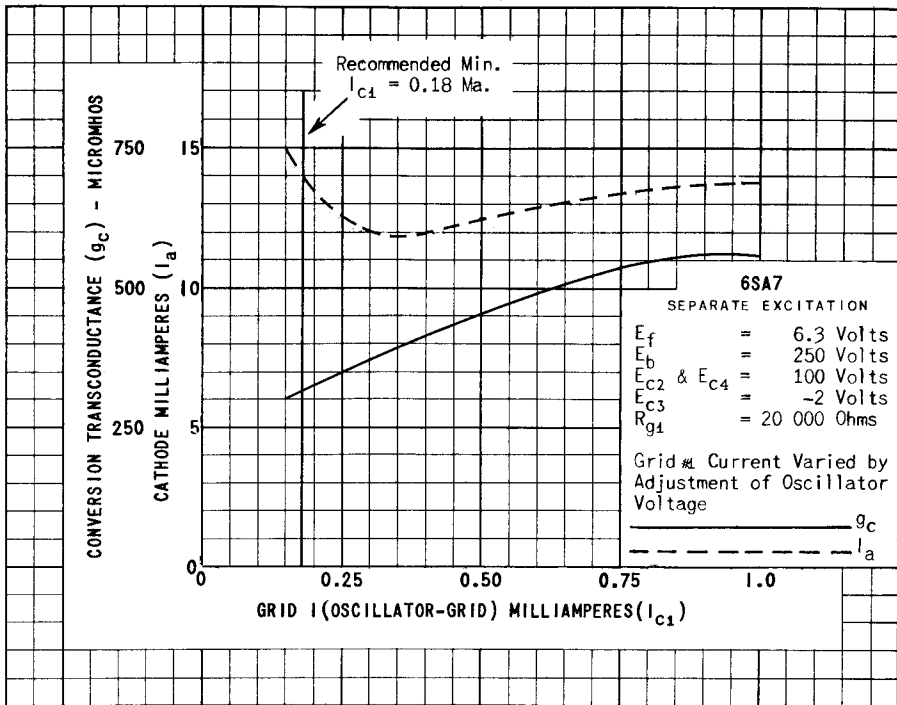


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