TUNG-SOL

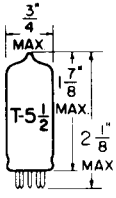
HEPTODE

MINIATURE TYPE

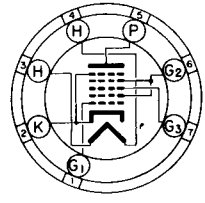
COATED UNIPOTENTIAL CATHODE

HEATER
12.6* VOLTS 0.15 AMP.
AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW
MINIATURE BUTTON
7 PIN BASE
7CH

THE 12AG6 IS A MINIATURE HEPTODE INTENDED PRIMARILY TO PERFORM THE COMBINED FUNCTIONS OF MIXER AND OSCILLATOR IN AUTOMOBILE RADIO RECEIVERS. THE TUBE IS SPECIFICALLY DESIGNED TO OPERATE WITH PLATE AND SCREEN VOLTAGES SUPPLIED DIRECTLY FROM A 12-VOLT STORAGE BATTERY.

DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

GRID #3 TO ALL	6.5	μμf
PLATE TO ALL	7.5	μμf
GRID #1 TO ALL	5.5	μμf
CATHODE TO ALL EXCEPT GRID #1	18	μμf
GRID #3 TO PLATE (MAX.)	0.28	μμf
GRID #1 TO GRID #3 (MAX.)	0.17	μμf
GRID #1 TO PLATE (MAX.)	0.065	μμf
GRID #1 TO CATHODE	2.8	μμf

RATINGS
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	12.6	VOLTS
MAXIMUM PLATE VOLTAGE	16	VOLTS
MAXIMUM SCREEN VOLTAGE	16	VOLTS
MAXIMUM POSITIVE DC GRID #3 VOLTAGE	0	VOLTS
MAXIMUM DC GRID #1 CURRENT	0.2	MA.
MAXIMUM GRID #3 CIRCUIT RESISTANCE	2.2	MEGOHMS

DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO BOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE, THEREFORE, THE EQUIPMENT DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM VALUE IS EXCEEDED WITH A BOGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.

*WHEN USED IN AUTOMOTIVE SERVICE FROM A 12-VOLT SOURCE, UNDER NO CIRCUMSTANCES SHOULD THE HEATER VOLTAGE BE LESS THAN 10.0 VOLTS OR MORE THAN 15.9 VOLTS. THESE EXTREME VARIATIONS IN HEATER VOLTAGE MAY BE TOLERATED FOR SHORT PERIODS; HOWEVER, OPERATION AT OR NEAR THESE ABSOLUTE LIMITS IN HEATER VOLTAGE NECESSARILY INVOLVES SACRIFICE IN PERFORMANCE AT LOW HEATER VOLTAGE AND IN LIFE EXPECTANCY AT HIGH HEATER VOLTAGE. EQUIPMENT RELIABILITY CAN BE SIGNIFICANTLY INCREASED WITH IMPROVED SUPPLY-VOLTAGE REGULATION.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CONVERTER SERVICE[A]

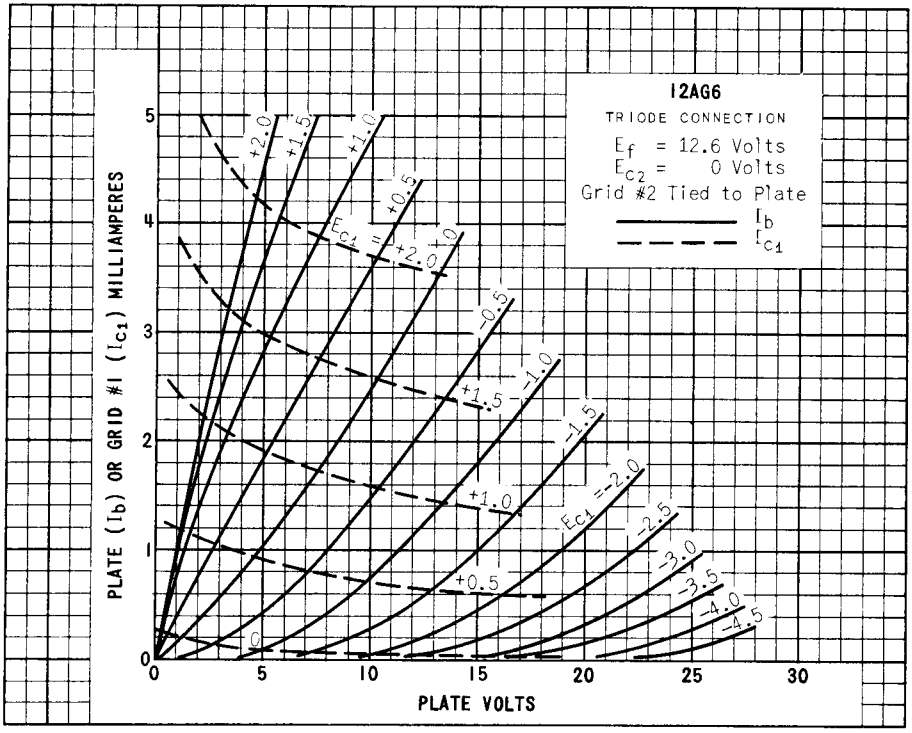
HEATER VOLTAGE	12.6	VOLTS
HEATER CURRENT	0.15	AMP.
PLATE VOLTAGE	12.6	VOLTS
SCREEN VOLTAGE	12.6	VOLTS
GRID #3 SUPPLY VOLTAGE	0	VOLTS
GRID #3 RESISTOR (BYPASSED)	2.2	MEGOHMS
GRID #1 VOLTAGE, RMS, (APPROX.)	0.85	VOLTS
GRID #1 RESISTOR	20 000	OHMS
CONVERSION TRANSCONDUCTANCE	300	μMHOS
PLATE CURRENT	0.55	MA.
SCREEN CURRENT	1.4	MA.
GRID #1 CURRENT	0.050	MA.
GRID #3 VOLTAGE, (APPROX.) G_c=10 μMHOS	-2.0	VOLTS

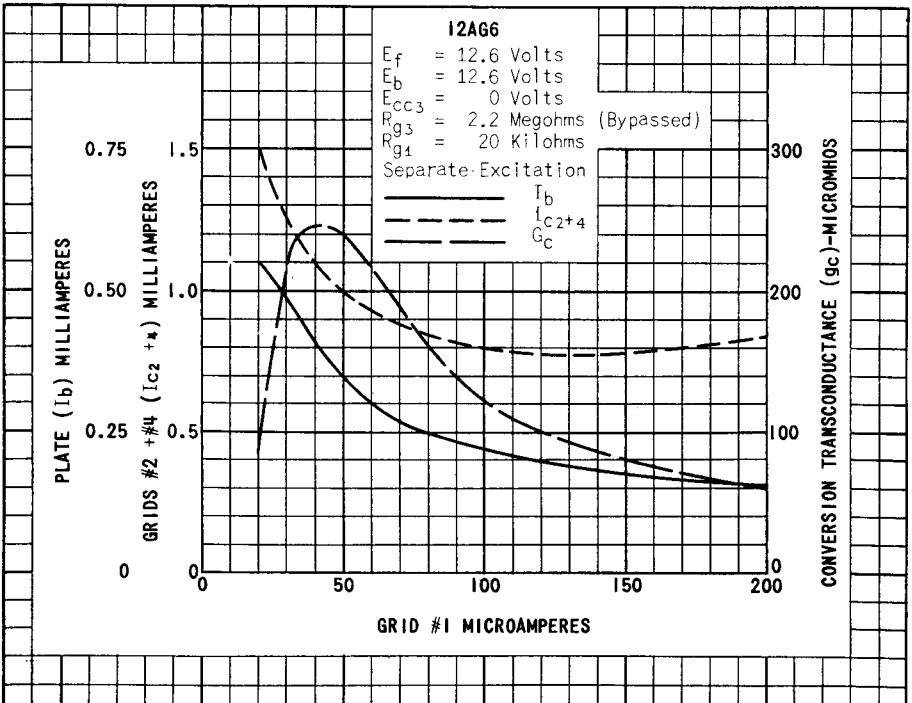
OSCILLATOR CHARACTERISTICS, NOT OSCILLATING

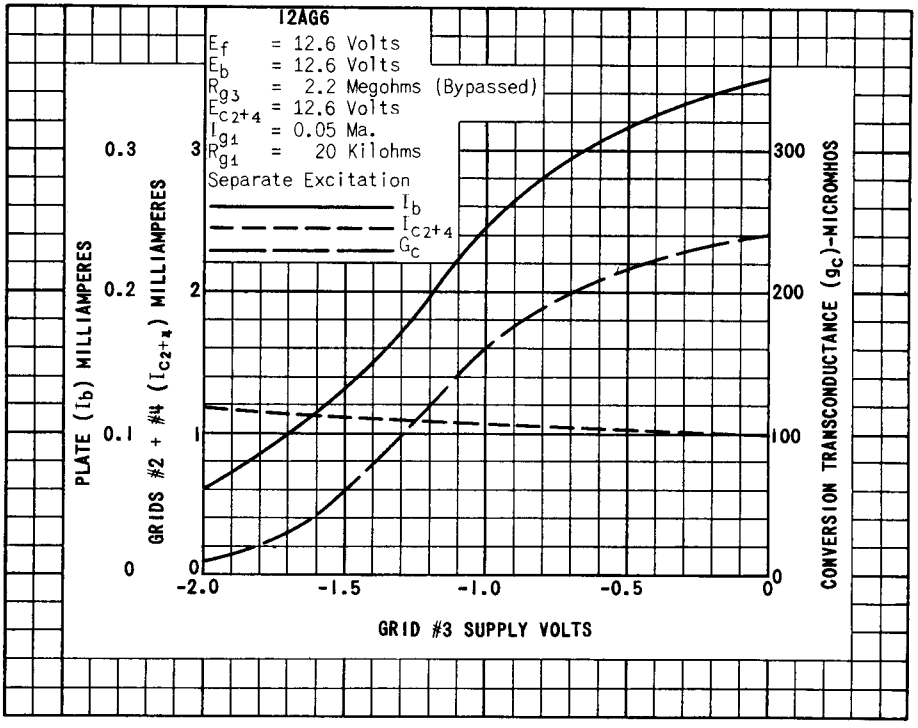
HEATER VOLTAGE	12.6	VOLTS
HEATER CURRENT	0.15	AMP.
PLATE VOLTAGE	12.6	VOLTS
SCREEN—CONNECTED TO PLATE		
GRID #3 VOLTAGE	0	VOLTS
GRID #1 VOLTAGE	0	VOLTS
AMPLIFICATION FACTOR[B]	9.0	
TRANSCONDUCTANCE[B]	3 400	μMHOS
CATHODE CURRENT	4.2	MA.
GRID #1 VOLTAGE (APPROX.) I_b=10 μAMPS	-4	VOLTS

[A] CHARACTERISTICS SHOWN ARE OBTAINED IN THE STANDARD RETMA 60-CYCLE CONVERSION TRANSCONDUCTANCE TEST SET EXCEPT THAT THE APPLIED GRID-NUMBER 3 SIGNAL VOLTAGE HAS BEEN REDUCED FROM 1.0 VOLT PEAK-TO-PEAK TO 0.1 VOLT PEAK-TO-PEAK.

[B] BETWEEN GRID-NUMBER 1 AND GRIDS NUMBER 2 AND 4 CONNECTED TO PLATE.






12AG6
E_f = 12.6 Volts
E_b = 12.6 Volts
R_{g3} = 2.2 Megohms (Bypassed)
E_{c2+4} = 12.6 Volts
I_{g1} = 0.05 Ma.
R_{g1} = 20 Kilohms
Separate Excitation
I_b
I_{c2+4}
G_c
PLATE (I_b) MILLIAMPERES
GRIDS #2 + #4 (I_{c2+4}) MILLIAMPERES
CONVERSION TRANSCONDUCTANCE (g_c)-MICROMHOS
GRID #3 SUPPLY VOLTS
0.3
0.2
0.1
0
3
2
1
0
300
200
100
0
-2.0
-1.5
-1.0
-0.5
0