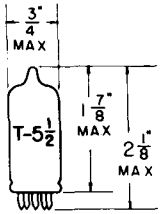
TUNG-SOL

HEPTODE

MINIATURE TYPE



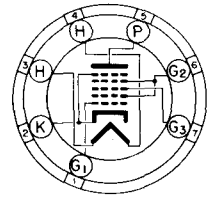
GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS 0.15 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
7 PIN BASE
7CH

THE 12GA6 IS A MINIATURE HEPTODE PRIMARILY INTENDED TO PERFORM THE COMBINED FUNCTIONS OF MIXER AND OSCILLATOR IN AUTOMOBILE RADIO RECEIVERS. THE TUBE IS SPECIALLY DESIGNED TO OPERATE WITH PLATE AND SCREEN VOLTAGES SUPPLIED DIRECTLY FROM A 12-VOLT STORAGE BATTERY.

DIRECT INTERELECTRODE CAPACITANCES

	WITH[A] SHIELD	WITHOUT SHIELD	
GRID #3 TO ALL	8.0	8.0	μμf
PLATE TO ALL	13	8.0	μμf
GRID #1 TO ALL	5.0	5.0	μμf
CATHODE TO ALL EXCEPT GRID #1	20	15	μμf
GRID #3 TO PLATE, MAX.	0.25	0.3	μμf
GRID #1 TO GRID #3 , MAX.	0.15	0.15	μμf
GRID #1 TO PLATE, MAX.	0.05	0.1	μμf
GRID #1 TO CATHODE	2.5	2.5	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE[B]	12.6	VOLTS
MAXIMUM PLATE VOLTAGE	16	VOLTS
MAXIMUM SCREEN VOLTAGE	16	VOLTS
MAXIMUM POSITIVE DC GRID #3 VOLTAGE	0	VOLTS
MAXIMUM NEGATIVE DC GRID #3 VOLTAGE	16	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER POSITIVE WITH RESPECT TO CATHODE	16	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE	16	VOLTS
MAXIMUM GRID #3 CIRCUIT RESISTANCE	10	MEG.

[A] WITH EXTERNAL SHIELD 316 CONNECTED TO PIN 2.

CONTINUED ON FOLLOWING PAGE

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CONVERTER SERVICE

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	MEG.
GRID #1 VOLTAGE, RMS, APPROX.	1.6	VOLTS
GRID #1 RESISTOR	33000	OHMS
PLATE RESISTANCE, APPROX.	1.0	MEG.
CONVERSION TRANSCONDUCTANCE	140	μMHOS
PLATE CURRENT	0.30	MA.
SCREEN CURRENT	0.80	MA.
GRID #1 CURRENT	0.060	MA.
GRID #3 VOLTAGE, APPROX. Gc =5 μMHOS	-3	VOLTS
GRID #3 VOLTAGE, APPROX. Gc = 20 μMHOS	-2.5	VOLTS

OSCILLATOR CHARACTERISTICS - NOT OSCILLATING

PLATE VOLTAGE	12.6	VOLTS
SCREEN, CONNECTED TO PLATE		
SCREEN VOLTAGE	0	VOLTS
GRID #3 VOLTAGE	0	VOLTS
AMPLIFICATION FACTOR[C]	9.0	
TRANSCONDUCTANCE[C]	2400	μMHOS
CATHODE CURRENT	3.6	MA.
GRID #1 VOLTAGE, APPROX. Ib =10 μAMPS.	-3.3	VOLTS

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY TUBE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THESE VALUES ARE CHOSEN BY THE TUBE MANUFACTURER TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE TUBE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN THE CHARACTERISTICS OF THE TUBE UNDER CONSIDERATION. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, VARIATION IN CHARACTERISTICS OF ALL OTHER TUBES IN THE EQUIPMENT, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

[B]WHEN USED IN AUTOMOBILE 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.

[C]BETWEEN GRID #1 AND GRID NUMBERS 2 & 4 CONNECTED TO PLATE.