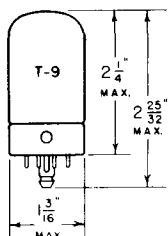


TUNG-SOL

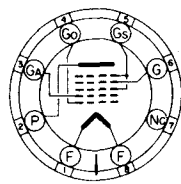


PENTAGRID CONVERTER

COATED FILAMENT

1.4 VOLTS 0.05 AMPERE
DC

GLASS BULB



7AK

BOTTOM VIEW

LOCKING-IN 8 PIN BASE

THE TUNG-SOL 1LA6 IS A LOW VOLTAGE, LOW CURRENT DRAIN, BATTERY TYPE PENTAGRID CONVERTER. IT IS DESIGNED FOR SERVICE AS AN OSCILLATOR AND MIXER IN SUPERHETERODYNE RECEIVERS WHICH REQUIRE ONLY 90 VOLTS OF "B" BATTERY AND A SINGLE DRY CELL "A" BATTERY. ITS ELECTRICAL CHARACTERISTICS ARE SIMILAR TO THOSE OF THE 1A7G.

RATINGS

MAXIMUM FILAMENT VOLTAGE

DRY BATTERY OPERATION - VOLTAGE MUST NEVER EXCEED 1.6 VOLTS

AC - DC POWER LINE OPERATION - DESIGN CENTER 1.3 VOLTS

MAXIMUM PLATE (P) VOLTAGE 90 VOLTS

MAXIMUM SCREEN (Gs) SUPPLY VOLTAGE 90 VOLTS

MAXIMUM SCREEN VOLTAGE ^A 55 VOLTS

MAXIMUM OSCILLATOR ANODE (Ga) VOLTAGE 90 VOLTS

MAXIMUM TOTAL CATHODE CURRENT-ZERO SIGNAL 3 MA.

^A OBTAINED BY USING A PROPERLY BY-PASSED VOLTAGE DROPPING RESISTOR OF 45000 TO 75000 OHMS IN SERIES WITH A "B" SUPPLY VOLTAGE.

FOR "INTERPRETATION OF RATINGS" REFER TO FRONT OF BOOK.

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TUNG-SOL

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CONVERTER SERVICE

PLATE (P) VOLTAGE	90	VOLTS
SCREEN (G _s) VOLTAGE ^A	45	VOLTS
CONTROL GRID (G) VOLTAGE ^B	0	VOLTS
OSCILLATOR ANODE (G _A) VOLTAGE	90	VOLTS
OSCILLATOR GRID (G ₀) RESISTOR	200 000	OHMS
PLATE CURRENT	0.55	MA.
SCREEN CURRENT	0.6	MA.
OSCILLATOR ANODE CURRENT	1.2	MA.
OSCILLATOR GRID CURRENT	0.035	MA.
TOTAL CATHODE CURRENT	2.4	MA.
PLATE RESISTANCE	0.75	MEGOHM
CONVERSION TRANSCONDUCTANCE	250	μMHOS
FOR CONTROL GRID (G) VOLTAGE = 0 V.		
CONVERSION TRANSCONDUCTANCE APPROX.	10	μMHOS
FOR CONTROL GRID VOLTAGE = -3 V.		

DIRECT INTERELECTRODE CAPACITANCES^S

CONTROL GRID (G) TO MIXER PLATE (P)	0.4	μμf
CONTROL GRID (G) TO OSCILLATOR ANODE (G _A)	0.3	μμf
CONTROL GRID (G) TO OSCILLATOR GRID (G ₀)	0.15	μμf
OSCILLATOR GRID (G ₀) TO OSCILLATOR ANODE (G _A)	0.6	μμf
RF INPUT: CONTROL GRID (G) TO ALL OTHER ELECTRODES	7.7	μμf
OSCILLATOR INPUT: OSCILLATOR GRID (G ₀) TO ALL OTHER ELECTRODES EXCEPT OSCILLATOR ANODE (G _A)	2.9	μμf
OSCILLATOR OUTPUT: OSCILLATOR ANODE (G _A) TO ALL OTHER ELECTRODES EXCEPT OSCILLATOR GRID (G ₀)	3.3	μμf
MIXER OUTPUT: MIXER PLATE (P) TO ALL OTHER ELECTRODES	8.0	μμf

^A OBTAINED PREFERABLY BY USING A PROPERLY BY-PASSED VOLTAGE DROPPING RESISTOR OF 45000 TO 75000 OHMS IN SERIES WITH A "B" SUPPLY VOLTAGE.

^B A RESISTANCE OF AT LEAST 1 MEGOHM SHOULD BE IN GRID RETURN TO NEGATIVE FILAMENT TERMINAL (PIN #8).

^S WITH EXTERNAL SHIELD CONNECTED TO NEGATIVE FILAMENT TERMINAL.

NOTE: THE TRANSCONDUCTANCE OF THE OSCILLATOR SECTION (NOT OSCILLATING) IS APPROXIMATELY 550 μMHOS, THE AMPLIFICATION FACTOR IS 40, AND THE OSCILLATOR ANODE CURRENT IS 2.2 MA.
CONDITIONS: PLATE VOLTAGE = 90 VOLTS, OSCILLATOR ANODE VOLTAGE = 90 VOLTS, SCREEN VOLTAGE = 45 VOLTS, AND THE GRID VOLTAGE = 0 VOLTS.