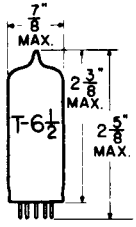
TUNG-SOL

TRIODE

MINIATURE TYPE



GLASS BULB

COATED UNIPOTENTIAL CATHODE

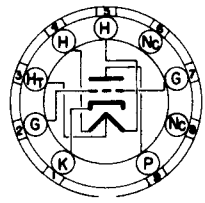
HEATER

SERIES	PARALLEL
12.6 VOLTS	6.3 VOLTS
0.3 AMP.	0.6 AMP.

AC OR DC

ANY MOUNTING POSITION

CONTROL OF HEATER CHARACTERISTICS APPLIES ONLY TO 600 MA. HEATER CONNECTION.



BOTTOM VIEW

MINIATURE BUTTON
9 PIN BASE
9AG

THE 12B4A IS A LOW-MU, HIGH PERVEANCE TRIODE USING THE 9 PIN MINIATURE CONSTRUCTION AND HAS BEEN DESIGNED FOR USE IN 600 MA. SERIES HEATER OPERATED RECEIVERS. IT IS INTENDED FOR USE AS A VERTICAL DEFLECTION AMPLIFIER IN TELEVISION RECEIVERS AND OTHER APPLICATION WHERE HIGH PEAK CURRENTS MUST BE DEVELOPED WITH LOW SUPPLY VOLTAGES. THERMAL CHARACTERISTICS OF THE HEATER HAVE BEEN CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. WITH THE EXCEPTION OF CONTROL OF THE HEATER THERMAL CHARACTERISTICS, ITS CHARACTERISTICS ARE IDENTICAL TO THE 12B4.

DIRECT INTERELECTRODE CAPACITANCES – APPROX.

GRID TO PLATE: G TO P	4.8	μμf
INPUT: G TO (H+K)	5.0	μμf
OUTPUT: P TO (H+K)	1.5	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	CLASS A_1 AMPLIFIER	VERTICAL DEFLECTION AMPLIFIER[A]	
HEATER VOLTAGE (PARALLEL CONNECTION)	6.3	6.3	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK	200	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC	100	100	VOLTS
TOTAL DC AND PEAK	200	200	VOLTS
MAXIMUM PLATE VOLTAGE	550	550	VOLTS
MAXIMUM PEAK POSITIVE PLATE VOLTAGE (ABSOLUTE MAXIMUM)	---	1000	VOLTS
MAXIMUM PLATE DISSIPATION	5.5	5.5[B]	WATTS
MAXIMUM PEAK NEGATIVE GRID VOLTAGE	---	250	VOLTS
MAXIMUM AVERAGE CATHODE CURRENT	---	30	MA.
MAXIMUM PEAK CATHODE CURRENT	---	105	MA.
MAXIMUM GRID CIRCUIT RESISTANCE:			
FIXED BIAS	0.47	---	MEGOHM
CATHODE BIAS	2.2	2.2	MEGOHMS
HEATER WARM-UP TIME (APPROX.)*	11.0		SECONDS

[A] FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCASTING STATIONS; FEDERAL COMMUNICATIONS COMMISSION". THE DUTY CYCLE OF THE VOLTAGE PULSE NOT TO EXCEED 15 PERCENT OF A SCANNING CYCLE.

[B] IN STAGES OPERATING WITH GRID-LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

* HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

HEATER VOLTAGE (PARALLEL CONNECTION)	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
PLATE VOLTAGE	150	VOLTS
GRID VOLTAGE	-17.5	VOLTS
PLATE CURRENT	34	MA.
AMPLIFICATION FACTOR	6.5	
PLATE RESISTANCE (APPROX.)	1 030	OHMS
TRANSCONDUCTANCE	6 300	µMHOS
PLATE CURRENT E_c = -23 VOLTS	9.6	MA.
GRID VOLTAGE (APPROX.) FOR I_b = 200 µA.	-32	VOLTS

PLATE #3979 SEPTEMBER 1, 1954 TUNG-SOL ELECTRIC INC. ELECTRON TUBE DIVISION BLOOMFIELD, NEW JERSEY, U.S.A.