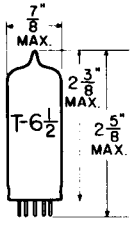
TUNG-SOL

DIODE-PENTODE

MINIATURE TYPE

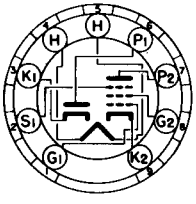


GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
6.3 VOLTS 0.6 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
SMALL GLASS BUTTON
9 PIN BASE

THE 6BY8 IS A MINIATURE HIGH PERVEANCE DIODE, SHARP CUTOFF PENTODE WHOSE DESIGN LENDS ITSELF FOR USE AS AN AMPLIFIER ALONG WITH A HIGH PERVEANCE DIODE SUITABLE FOR USE AS A LIMITER OR A DETECTOR. THE PENTODE SECTION IS SIMILAR TO THE TYPE 6AU6. THE DIODE IS SIMILAR TO ONE SECTION OF A TYPE 6AL5. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED.

DIRECT INTERELECTRODE CAPACITANCES[A]

PENTODE GRID #1 TO PENTODE PLATE (G_1 TO P) (MAX.)	.0035	μμf
PENTODE INPUT: G_1 TO (H+K+G_2+G_3,SH)	5.5	μμf
PENTODE OUTPUT: P TO (H+K+G_2+G_3,SH)	5.0	μμf
DIODE PLATE TO ALL: DP TO (H+Kd+Kp+G_1+G_2+G_3,SH,+P)	4.8	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

PENTODE SECTION		
HEATER VOLTAGE	6.3	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM GRID #2 VOLTAGE	SEE J5-C4-2	
MAXIMUM GRID #2 SUPPLY VOLTAGE	300	VOLTS
MAXIMUM PLATE DISSIPATION	3	WATTS
MAXIMUM GRID #2 DISSIPATION	.65	WATT
MAXIMUM NEGATIVE GRID #1 VOLTAGE	50	VOLTS
MAXIMUM POSITIVE GRID #1 VOLTAGE	0	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS
HEATER WARM-UP TIME (APPROX.)*	11.0	SECONDS

*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.

A EXTERNAL SHIELD #315 CONNECTED TO PIN #9.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS – CONT'D

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

DIODE SECTION

MAXIMUM PEAK INVERSE PLATE VOLTAGE	430	VOLTS
MAXIMUM PEAK PLATE CURRENT	180	MA.
MAXIMUM DC CURRENT	45	MA.
MAXIMUM HEATER–CATHODE VOLTAGE		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HEATER VOLTAGE	6.3		VOLTS
HEATER CURRENT	0.6		AMP.
PLATE VOLTAGE	100	250	VOLTS
GRID #2 VOLTAGE	100	150	VOLTS
GRID #3 VOLTAGE	PIN 2 CONNECTED TO PIN 9 AT SOCKET		
CATHODE BIAS RESISTOR	150	68	OHMS
PLATE RESISTANCE (APPROX.)	0.5	1.0	MEGOHM
TRANSCONDUCTANCE	3900	5200	μMHOS
GRID #1 VOLTAGE (APPROX.)			
FOR I_b = 10 μA	−4.2	−6.5	VOLTS
PLATE CURRENT	5.0	10.6	MA.
GRID #2 CURRENT	2.1	4.3	MA.

TYPICAL CHARACTERISTICS – DIODE SECTION

AVERAGE DIODE CURRENT AT 10V DC	60	MA.