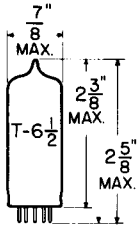
TUNG-SOL

TRIODE PENTODE

MINIATURE TYPE

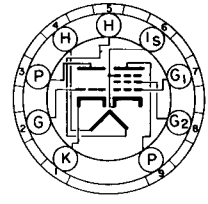


GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
10.5 VOLTS 0.45 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
9 PIN BASE
9DX

THE 10EB8 IS A HIGH-MU TRIODE AND SHARP CUTOFF PENTODE IN THE 9-PIN MINIATURE CONSTRUCTION. THE TRIODE SECTION IS DESIGNED FOR USE AS A VOLTAGE AMPLIFIER WHILE THE PENTODE SECTION HAS A CONTROLLED PLATE KNEE CHARACTERISTIC AND IS DESIGNED FOR USE AS A VIDEO AMPLIFIER. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SO THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME THE 10EB8 IS IDENTICAL TO THE 6EB8.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

TRIODE SECTION:		
GRID TO PLATE	4.4	μμf
INPUT: G TO (H + K)	2.4	μμf
OUTPUT: P TO(H + K)	0.36	μμf
PENTODE SECTION:		
GRID #1 TO PLATE (MAX.)	0.1	μμf
INPUT: G_1 TO ($H+K+G_2+G_3$+I.S.)	11	μμf
OUTPUT: P TO ($H+K+G_2+G_3$+I.S.)	4.2	μμf
COUPLING:		
TRIODE GRID TO PENTODE PLATE (MAX.)	.018	μμf
PENTODE GRID #1 TO TRIODE PLATE (MAX.)	.005	μμf
PENTODE PLATE TO TRIODE PLATE (MAX.)	0.17	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM[A]

	TRIODE SECTION	PENTODE SECTION	
HEATER VOLTAGE	10.5	10.5	VOLTS
MAXIMUM PLATE VOLTAGE	330	330	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE		330	VOLTS
MAXIMUM GRID #2 VOLTAGE			
MAXIMUM POSITIVE GRID #1 VOLTAGE	0	0	VOLTS
MAXIMUM PLATE DISSIPATION	1.0	5.0	WATTS
MAXIMUM GRID #2 DISSIPATION		1.1	WATTS

CONTINUED ON FOLLOWING PAGE

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS - CONT'D.

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

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
MAXIMUM GRID #1 CIRCUIT RESISTANCE			
FIXED BIAS	0.5	0.25	MEGOHM
CATHODE BIAS	1.0	1.0	MEGOHM
HEATER WARM-UP TIME* (APPROX.)	11.0		SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

	TRIODE SECTION	PENTODE SECTION	
HEATER VOLTAGE	10.5	10.5	VOLTS
HEATER CURRENT	0.45	0.45	AMP.
PLATE VOLTAGE	250	200	VOLTS
GRID #2 VOLTAGE		125	VOLTS
GRID #1 VOLTAGE	-2		VOLTS
CATHODE BIAS RESISTOR		68	OHMS
PLATE CURRENT	2	25	MA.
GRID #2 CURRENT		7	MA.
TRANSCONDUCTANCE	2 700	12 500	μMHOS
AMPLIFICATION FACTOR	100		
PLATE RESISTANCE (APPROX.)	37 000	75 000	OHMS
GRID #1 VOLTAGE FOR I_b= 100 μA (APPROX.)		-9	VOLTS
GRID #1 VOLTAGE FOR I_b= 20 A (APPROX.)	-5		

PLATE KNEE CHARACTERISTICS - INSTANTANEOUS VALUES

E_b = 45 VOLTS, E_{c2} = 125 VOLTS AND E_{c1} = 0 VOLTS

PLATE CURRENT	40	MA.
GRID #2 CURRENT	15	MA.

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

*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.