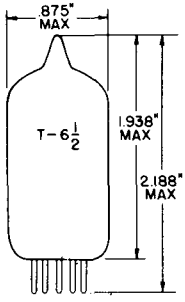
TUNG-SOL



GLASS BULB
MINIATURE BUTTON
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-2

TRIODE PENTODE

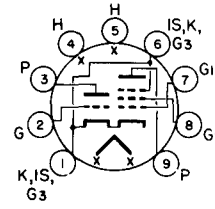
MINIATURE TYPE

COATED UNIPOTENTIAL CATHODE

HEATER

4.7 VOLTS 600 MA.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9JG

THE 5EH8 IS A MEDIUM MU-TRIODE AND A SHARP CUTOFF PENTODE IN THE 9-PIN MINIATURE CONSTRUCTION. IT IS INTENDED PRIMARILY FOR USE AS A COMBINED VHF OSCILLATOR AND MIXER. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT THE HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD #315	WITHOUT SHIELD	
TRIODE:*			
GRID TO PLATE	1.8	1 8	pf
INPUT: G TO (H+K+PK+P_{G3}+I.S.)	2.8	2.8	pf
OUTPUT: P TO (H+K+PK+P_{G3}+I.S.)	2.2	1.7	pf
PENTODE:*			
GRID #1 TO PLATE (MAX.)	.012	.020	pf
INPUT: G_1 TO (H+K+G_2+G_3+TK+I.S.)	4.8	4.8	pf
OUTPUT: P TO (H+K+G_2+G_3+TK+I.S.)	3.2	2.4	pf
CATHODE TO HEATER: H TO (TK+PK+P_{G3}+I.S.)	7.5	7.5	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

	TRIODE SECTION	PENTODE SECTION	
MAXIMUM PLATE VOLTAGE	300	300	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE		300	VOLTS
MAXIMUM GRID #2 VOLTAGE			
MAXIMUM PLATE DISSIPATION	2.5	2.8	WATTS
MAXIMUM GRID #2 DISSIPATION		0.5	WATT

*INDICATES AN ADDITION.

CONTINUED ON FOLLOWING PAGE

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RATINGS - CONT'D.

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM [A]

	TRIODE SECTION	PENTODE SECTION	
MAXIMUM POSITIVE GRID #1 VOLTAGE	0	0	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE:			
WITH FIXED BIAS	0.5	0.25	MEGOHM
WITH SELF BIAS	1.0	1.0	MEGOHM
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
HEATER WARM-UP TIME*	11.0		SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

	TRIODE SECTION	PENTODE SECTION		
PLATE VOLTAGE	125	100	125	VOLTS
GRID #2 VOLTAGE		70	125	VOLTS
GRID #1 VOLTAGE	-1.0	0	-1.0	VOLTS
PLATE CURRENT	13.5		12	MA.
GRID #2 CURRENT			4.0	MA.
TRANSCONDUCTANCE	7500	6500	6000	μMHOS
AMPLIFICATION FACTOR	40			
PLATE RESISTANCE (APPROX.)			0.17	MEGOHM
GRID #1 VOLTAGE FOR I_b=20 μA (APPROX.)	-9		-10	VOLTS

[A] 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 CONDITIONS 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