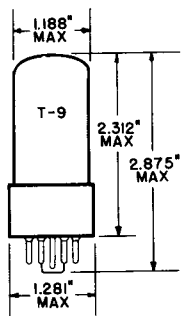


## TUNG-SOL

## DOUBLE TRIODE



GLASS BULB  
SHORT INTERMEDIATE SHELL  
8 PIN OCTAL B8-58  
OUTLINE DRAWING  
JEDEC 9-37

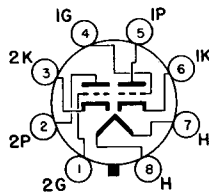
COATED UNIPOTENTIAL CATHODE

HEATER

6.3±0.6 VOLTS 925 MA.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 8BD

THE 6EM7 CONTAINS TWO DISSIMILAR TRIODES IN ONE ENVELOPE. SECTION 1 HAS A HIGH MU AND IS INTENDED FOR USE AS A VERTICAL DEFLECTION OSCILLATOR. SECTION 2 HAS A LOW MU AND IS DESIGNED FOR USE AS A VERTICAL DEFLECTION AMPLIFIER. EXCEPT FOR HEATER CHARACTERISTICS, THE 6EM7 IS IDENTICAL TO THE 13EM7.

## DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

	SEC. #1 <sup>D</sup>	SEC. #2 <sup>D</sup>	
GRID TO PLATE	4.8	10	pf
INPUT: G TO (H+K)	2.2	7.0	pf
OUTPUT: P TO (H+K)	0.6	1.8	pf

## RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM  
(EXCEPT AS NOTED)

VERTICAL DEFLECTION OSCILLATOR AND AMPLIFIER<sup>A</sup>

	SEC. #1 <sup>D</sup> OSCILLATOR	SEC. #2 <sup>D</sup> AMPLIFIER	
MAXIMUM DC PLATE VOLTAGE	330	330	VOLTS
MAXIMUM PEAK POSITIVE PULSE PLATE VOLTAGE (ABS. MAX)	—	1500	VOLTS
MAXIMUM PEAK NEGATIVE PULSE GRID VOLTAGE	400	250	VOLTS
MAXIMUM PLATE DISSIPATION <sup>C</sup>	1.5	10	WATTS
MAXIMUM AVERAGE CATHODE CURRENT	22	50	MA.
MAXIMUM PEAK CATHODE CURRENT	77	175	MA.
MAXIMUM GRID CIRCUIT RESISTANCE (SELF BIAS)	2.2	2.2	MEGOHMS

→ INDICATES A CHANGE.

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## RATINGS - CONT'D.

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM  
(EXCEPT AS NOTED)VERTICAL DEFLCTION OSCILLATOR AND AMPLIFIER<sup>A</sup>

## 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

## AVERAGE CHARACTERISTICS

	SEC. #1 <sup>D</sup>	SEC. #2 <sup>D</sup>	
PLATE VOLTAGE	250	150	VOLTS
GRID #1 VOLTAGE	-3	-20	VOLTS
PLATE CURRENT	1.4	50	MA.
TRANSCONDUCTANCE	1 600	7 200	μMHOS
AMPLIFICATION FACTOR	64 ←	5.4	
PLATE RESISTANCE (APPROX.)	40 000	750	OHMS
E <sub>c</sub> FOR I <sub>b</sub> = 10 μA (APPROX.)	-5.5	---	VOLTS
E <sub>c</sub> FOR I <sub>b</sub> = 100 μA (APPROX.)	---	-45	VOLTS
I <sub>b</sub> AT E <sub>c</sub> = -28 Vdc APPROX.	---	10	MA.

## INSTANTANEOUS PLATE KNEE VALUES (SECTION #2)

E<sub>b</sub> = 60 V; E<sub>c</sub> = 0  
I<sub>b</sub> = 95 MA.

<sup>A</sup> 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 35 PERCENT OF A SCANNING CYCLE.

<sup>B</sup> 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.

<sup>C</sup> 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.

<sup>D</sup> SECTION #1 CONNECTS TO PINS 4, 5 AND 6.