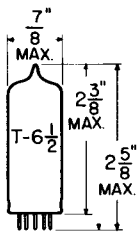


**TUNG-SOL**

**TRIODE PENTODE**  
MINIATURE TYPE



**GLASS BULB**

SMALL-BUTTON NOVAL  
9 PIN BASE E9-1

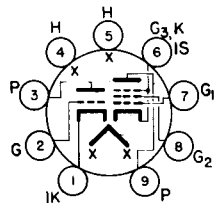
UNI-POTENTIAL CATHODE

HEATER

10.5 VOLTS 0.45±.03 AMP.

AC OR DC

ANY MOUNTING POSITION



**BOTTOM VIEW**

BASING DIAGRAM  
JEDEC 9DX

THE 10HF8 IS A HIGH-MU TRIODE AND A SHARP-CUTOFF PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS INTENDED FOR USE IN COLOR AND BLACK-AND-WHITE TELEVISION RECEIVERS.

THE PENTODE UNIT IS ESPECIALLY USEFUL AS A VIDEO OUTPUT AMPLIFIER AND THE TRIODE UNIT IS USEFUL IN VOLTAGE-AMPLIFIER APPLICATIONS SUCH AS SYNC-SEPARATOR, SYNC-CLIPPER AND PHASE-INVERTER CIRCUITS.

EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME, THE 10HF8 IS IDENTICAL TO THE 6HF8.

**DIRECT INTERELECTRODE CAPACITANCES**  
WITHOUT EXTERNAL SHIELD

**TRIODE UNIT:**

GRID TO PLATE	3.5	pf
GRID TO TRIODE CATHODE, PK, G3, I.S. & H.	2.8	pf
PLATE TO TRIODE CATHODE, PK, G3, I.S. & H.	2.6	pf

**PENTODE UNIT:**

GRID #1 TO PLATE (MAX.)	0.1	pf
GRID #1 TO K, I.S., G3, G2 & H	10	pf
PLATE TO K, I.S., G3, G2 & H.	4.2	pf
TRIODE GRID TO PENTODE PLATE (MAX.)	0.015	pf

**RATINGS**

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM  
CLASS A<sub>1</sub> AMPLIFIER

	TRIODE UNIT	PENTODE UNIT	
HEATER VOLTAGE		10.5	VOLTS
MAXIMUM PLATE VOLTAGE	330	330	
MAXIMUM GRID #2 SUPPLY VOLTAGE	---	330	VOLTS
MAXIMUM GRID #2 (SCREEN-GRID) VOLTAGE	---	SEE INPUT RATING CHART	
MAXIMUM GRID #1 (CONTROL-GRID) VOLTAGE:			
POSITIVE-BIAS VALUE	0	0	VOLTS

CONTINUED ON FOLLOWING PAGE

# TUNG-SOL

CONTINUED FROM PRECEDING PAGE

**RATINGS - CONT'D.**  
 INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM  
 CLASS A<sub>1</sub> AMPLIFIER

	TRIODE UNIT	PENTODE UNIT	
MAXIMUM PLATE DISSIPATION	1	5	WATTS
MAXIMUM GRID #2 INPUT			
FOR GRID #2 VOLTAGES UP TO 165 V.	---	1.1	WATTS
FOR GRID #2 VOLTAGES BETWEEN 165 AND 330 VOLTS			
		SEE INPUT RATING CHART	
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	200 <sup>A</sup>	200 <sup>A</sup>	VOLTS
HEATER WARM-UP TIME (AVERAGE)		11	SECONDS

<sup>A</sup>THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

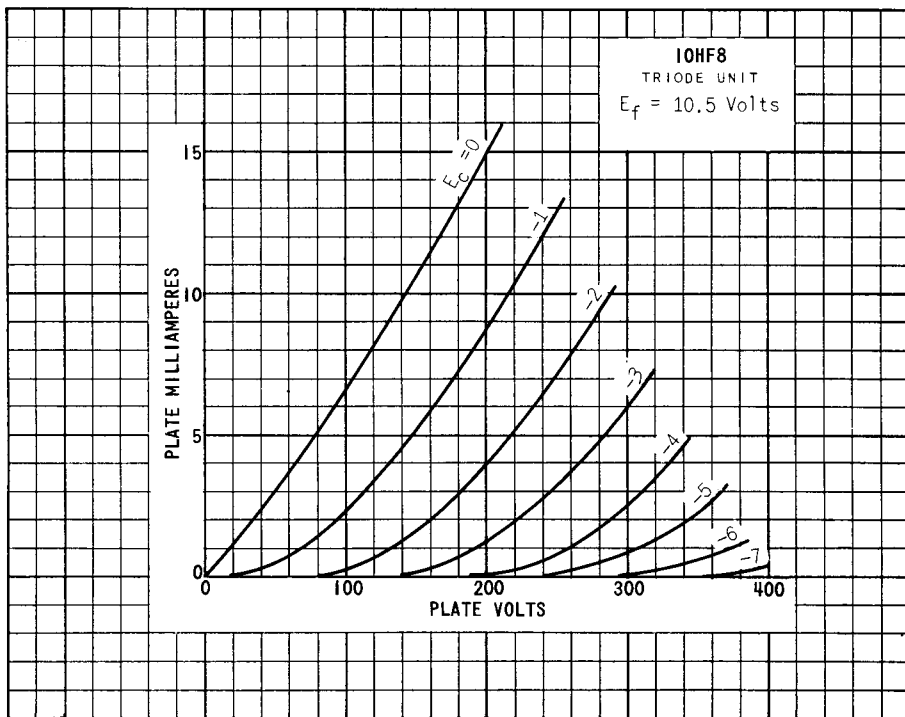
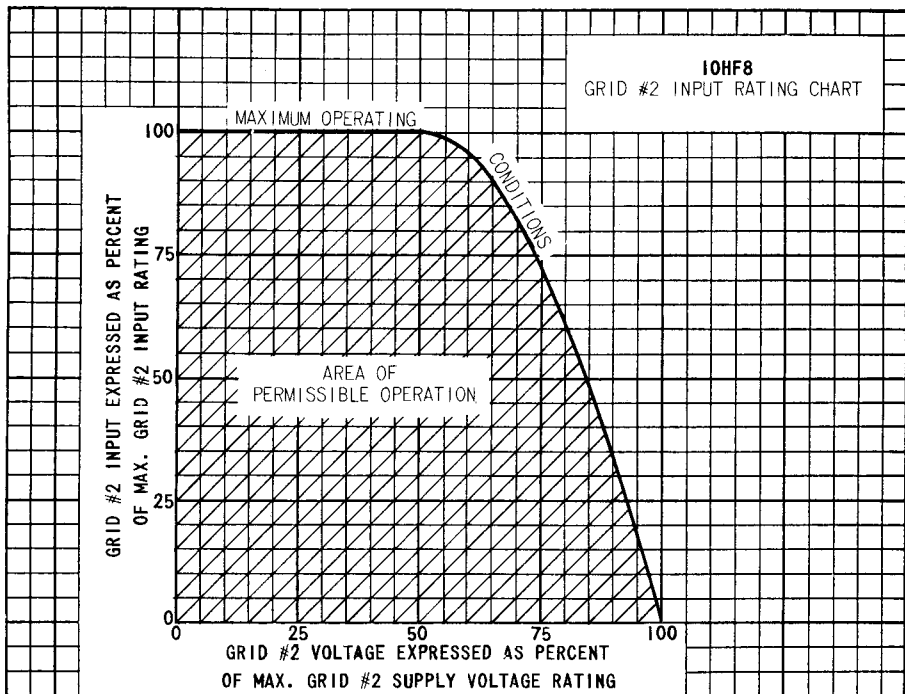
**CHARACTERISTICS**  
 CLASS A<sub>1</sub> AMPLIFIER

	TRIODE UNIT	PENTODE UNIT		
PLATE-SUPPLY VOLTAGE	200	45	200	VOLTS
GRID #2 SUPPLY VOLTAGE	---	125	125	VOLTS
GRID #1 VOLTAGE	-2	0	---	VOLTS
CATHODE RESISTOR	---	---	68	OHMS
AMPLIFICATION FACTOR	70	---	---	
PLATE RESISTANCE (APPROX.)	17500	---	75000	OHMS
TRANSCONDUCTANCE	4000	---	12500	μMHOS
PLATE CURRENT	4	40 <sup>B</sup>	25	MA.
GRID #2 CURRENT	---	15 <sup>B</sup>	7	MA.
GRID #1 VOLTAGE (APPROX.)				
FOR PLATE CURRENT OF 100 μA	---	---	-9	VOLTS
GRID #1 VOLTAGE (APPROX.)				
FOR PLATE CURRENT OF 20 μA	-6	---	---	VOLTS

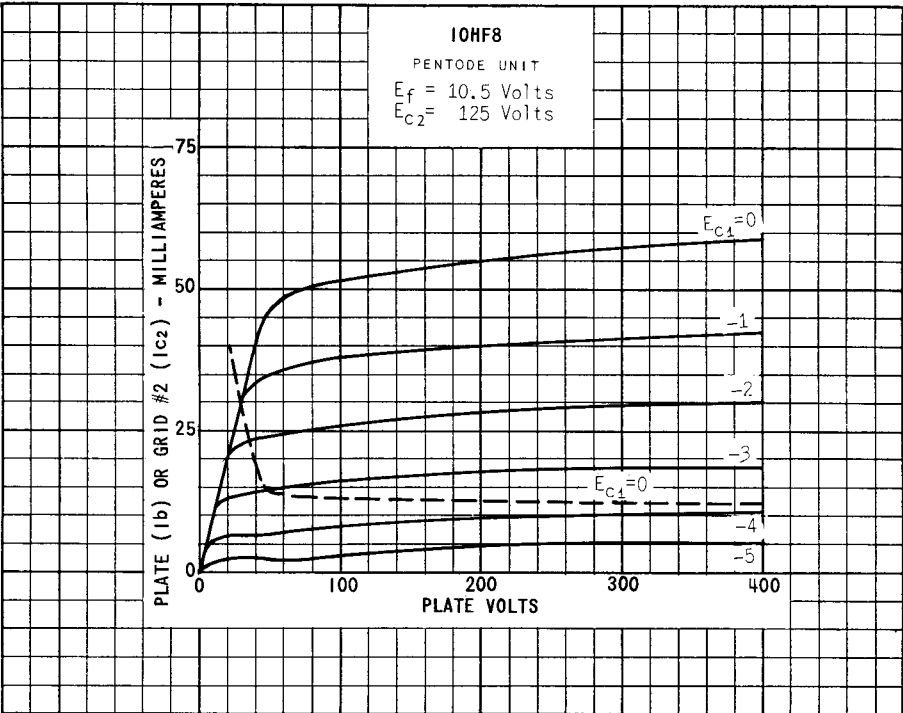
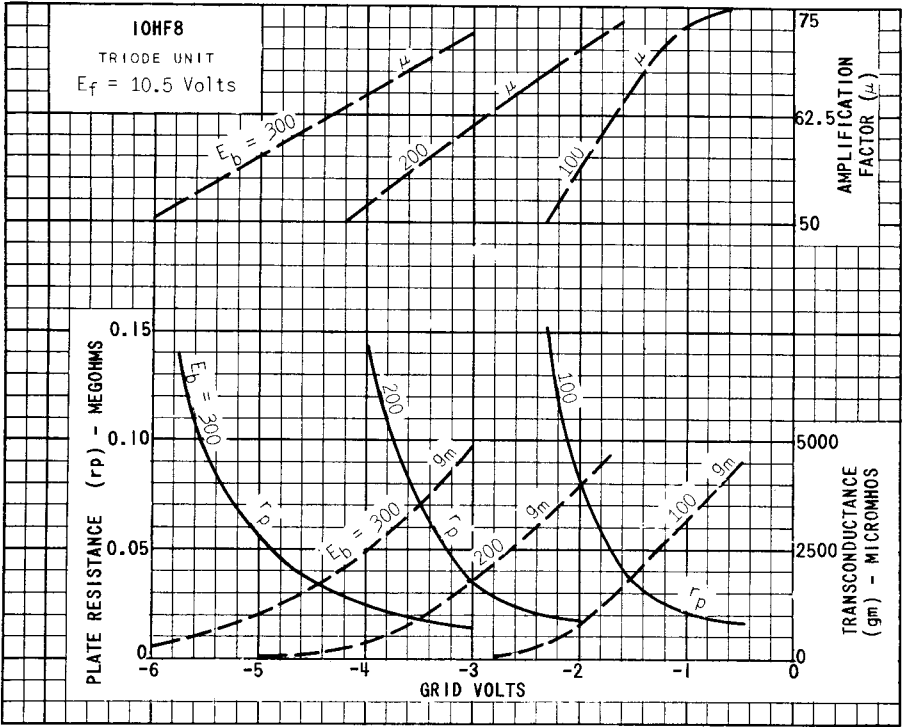
**MAXIMUM CIRCUIT VALUES**

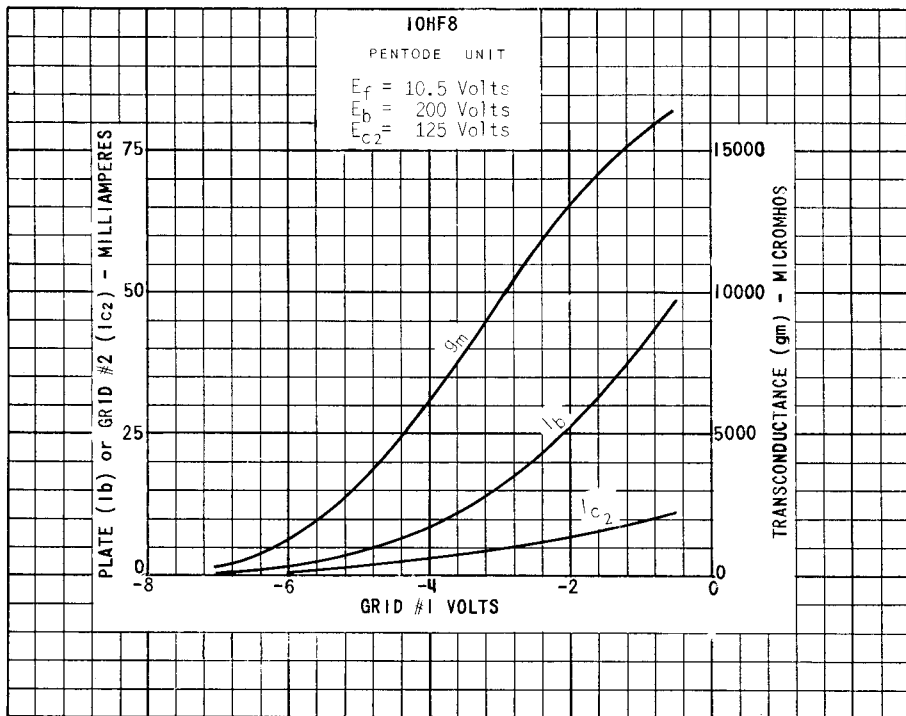
	TRIODE UNIT	PENTODE UNIT	
GRID #1 CIRCUIT RESISTANCE:			
FOR CATHODE-BIAS OPERATION (MAX.)	1.0	1.0	MEGOHM
FOR FIXED-BIAS OPERATION (MAX.)	0.5	0.25	MEGOHM

<sup>B</sup>THESE VALUES CAN BE MEASURED BY A METHOD INVOLVING A RECURRENT WAVEFORM SUCH THAT PLATE DISSIPATION AND GRID #2 INPUT WILL BE KEPT WITHIN RATINGS IN ORDER TO PREVENT DAMAGE TO THE TUBE.



# 10HF8





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