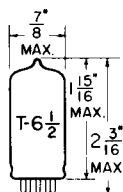


TUNG-SOL

TRIODE PENTODE

MINIATURE TYPE



GLASS BULB

MINIATURE BUTTON
9 PIN BASE E9-1OUTLINE DRAWING
JEDEC 6-3

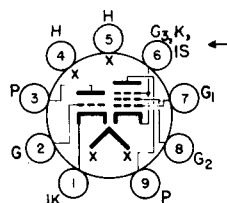
COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS * 0.300±0.030 AMPS.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM
JEDEC 9DX

THE 12AU8 IS A SHARP-CUTOFF PENTODE AND MEDIUM-MU TRIODE IN THE 9 PIN MINIATURE CONSTRUCTION. EACH SECTION HAS ITS OWN CATHODE AND IS ELECTRICALLY INDEPENDENT. IT IS DESIGNED FOR USE IN MONOCHROME AND COLOR TELEVISION RECEIVERS. THE PENTODE SECTION IS PARTICULARLY SUITED FOR USE AS A VIDEO AMPLIFIER, VIDEO IF AMPLIFIER, AND SOUND IF AMPLIFIER. THE TRIODE SECTION IS INTENDED FOR USE AS A SYNC AMPLIFIER, SEPARATOR OR CLIPPER, OR AS A SWEEP OSCILLATOR.

EXCEPT FOR HEATER RATINGS, THE 12AU8 IS IDENTICAL TO THE 6AU8.

DIRECT INTERELECTRODE CAPACITANCES

WITH NO EXTERNAL SHIELD

	PENTODE SECTION	TRIODE SECTION	
GRID TO PLATE	0.044	2.2	pf
INPUT	7.5	2.6	pf
OUTPUT	2.4	0.34	pf
PENTODE GRID #1 TO TRIODE PLATE	0.005		pf
TRIODE GRID TO PENTODE PLATE	0.002		pf
PENTODE PLATE TO TRIODE PLATE	0.12		pf

* AT 0.300 AMPERES.

→ INDICATES A CHANGE.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

	PENTODE SECTION	TRIODE SECTION	
HEATER VOLTAGE	12.6		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
MAXIMUM PLATE VOLTAGE	300	300	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE	300	---	VOLTS
MAXIMUM GRID #2 VOLTAGE	SEE RATING CHART		
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0	0	VOLTS
MAXIMUM PLATE DISSIPATION	3.0	2.5	WATTS
MAXIMUM GRID #2 DISSIPATION	1.0	---	WATTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE:			
FIXED BIAS	0.25	0.5	MEGOHM
CATHODE BIAS	1.0	1.0	MEGOHM
HEATER WARM-UP TIME (APPROX.) ^A	11.0		SECONDS

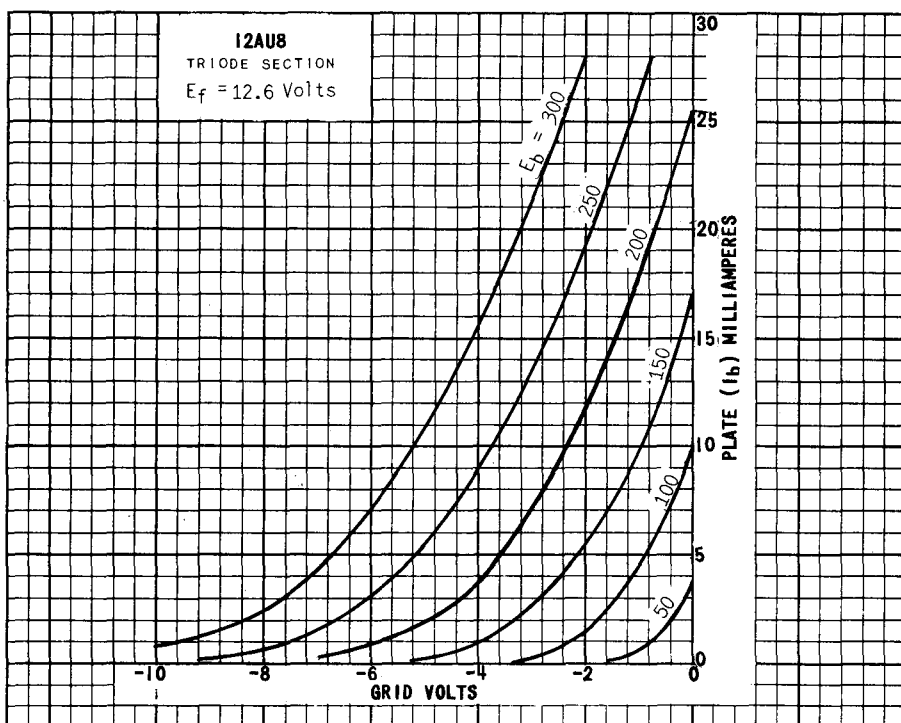
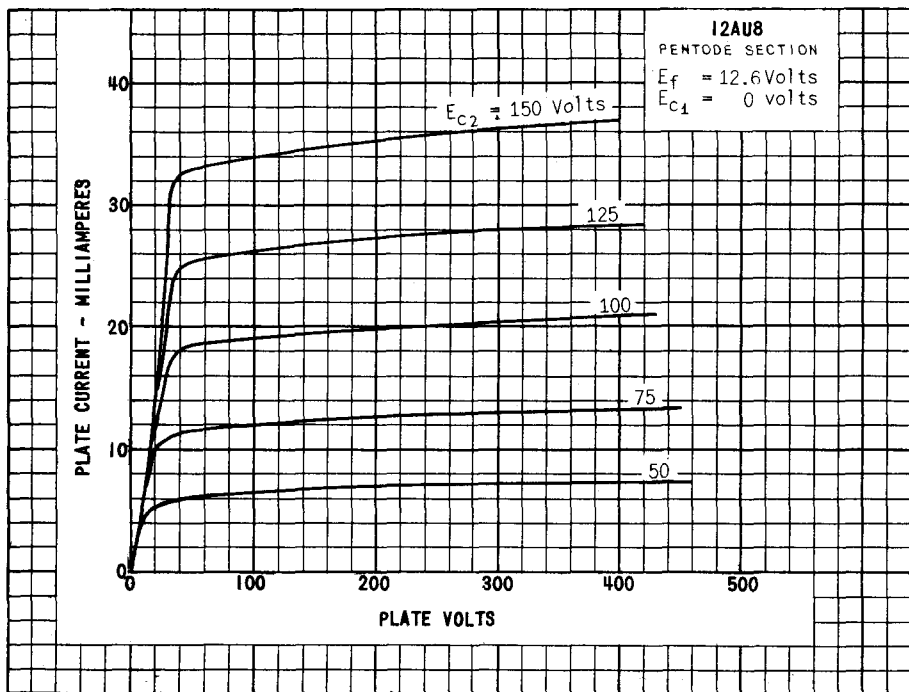
^A HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER

	PENTODE SECTION	TRIODE SECTION	
PLATE VOLTAGE	200	150	VOLTS
GRID #2 VOLTAGE	125	---	VOLTS
CATHODE BIAS RESISTOR	82	150	OHMS
AMPLIFICATION FACTOR	---	40	
PLATE RESISTANCE (APPROX.)	150 000	8 200	OHMS
TRANSCONDUCTANCE	7 000	4 900	UMHOS
PLATE CURRENT	15	9.0	MA.
GRID #2 CURRENT	3.4	---	MA.
GRID #1 VOLTAGE (APPROX.) FOR I _b = 100 UAMP.	-8	-6.5	VOLTS

DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO BOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE, THEREFORE, THE EQUIPMENT DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM VALUE IS EXCEEDED WITH A BOGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.

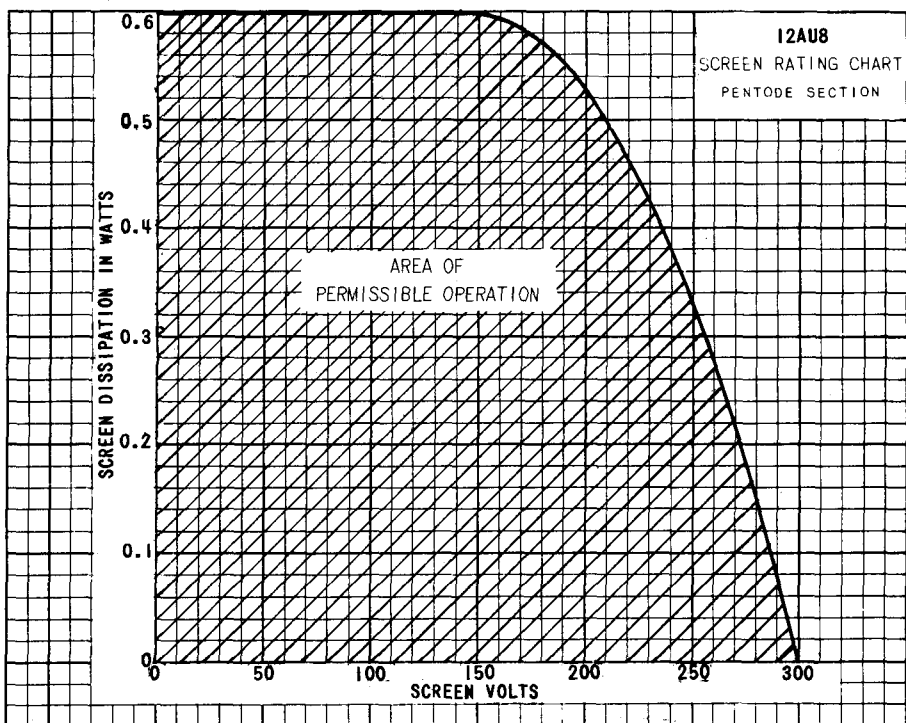


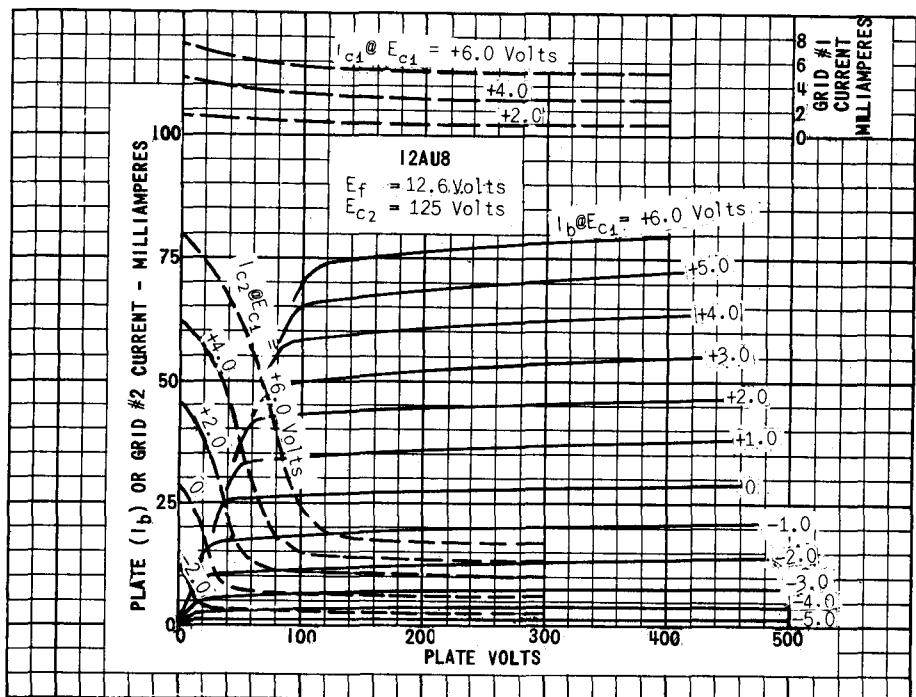
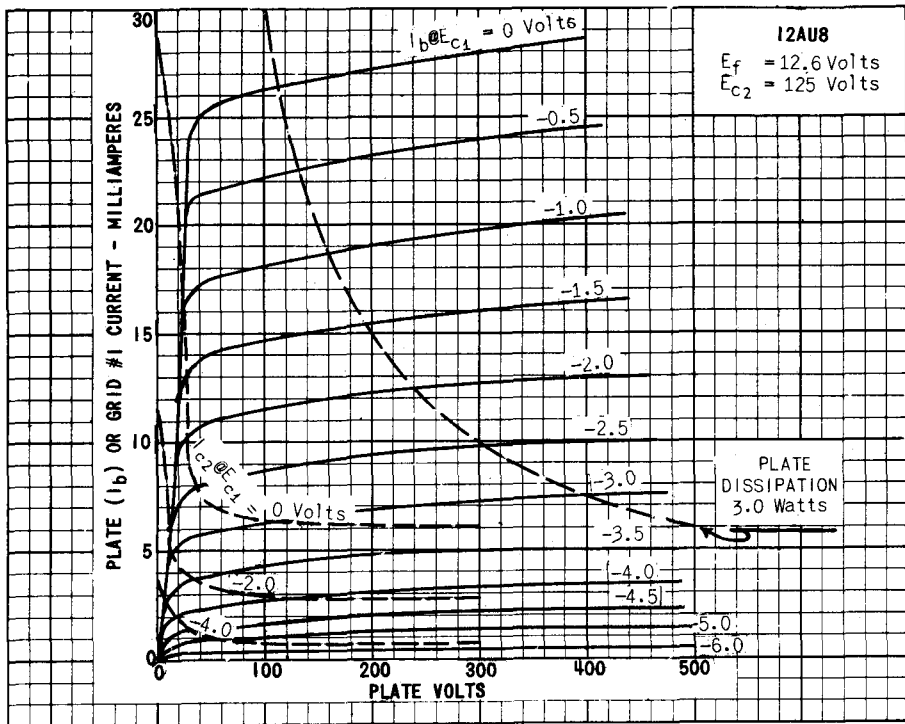
12AU8
TRIODE SECTION
 $E_f = 12.6$ Volts

Legend:
 — G_m
 - - - R_p
 — μ

The graph plots three characteristics against Plate Current (I_b) in milliamperes (mA) on the x-axis (0 to 25 mA). The left y-axis shows Amplification Factor (μ) from 20 to 50 and Plate Resistance (R_p) in ohms from 5000 to 20000. The right y-axis shows Transconductance (G_m) in micromhos from 2500 to 10000.

Curves are shown for grid voltages $E_b = 300$ V and $E_b = 250$ V. For each E_b , there are curves for μ (solid), R_p (dashed), and G_m (solid). The G_m curves are labeled with values 50, 100, 150, 200, 250, and 300.





12AU8

