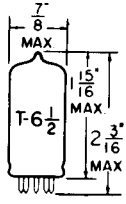
TUNG-SOL

TRIODE-PENTODE

MINIATURE TYPE

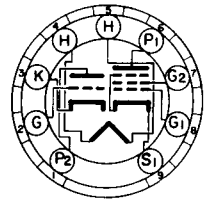


GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
4.7 VOLTS 0.6 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
9 PIN BASE

THE 5AN8 IS A GENERAL PURPOSE, MULTI-UNIT TUBE USING THE 9 PIN MINIATURE CONSTRUCTION. CONTAINING A MEDIUM-MU TRIODE AND A SHARP-CUTOFF PENTODE IN ONE ENVELOPE, IT IS DESIGNED FOR USE IN 600 MA. SERIES HEATER OPERATED RECEIVERS. IT IS INTENDED FOR A WIDE VARIETY OF APPLICATIONS IN COLOR TELEVISION RECEIVERS. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. WITH THE EXCEPTION OF HEATER RATINGS, ITS CHARACTERISTICS ARE IDENTICAL TO THE 6AN8.

DIRECT INTERELECTRODE CAPACITANCES

WITH NO EXTERNAL SHIELD

TRIODE UNIT		
GRID TO PLATE	1.5	μμf
INPUT	2.0	μμf
OUTPUT	0.27	μμf
PENTODE UNIT		
GRID #1 TO PLATE (MAX.)	0.04	μμf
INPUT	7.0	μμf
OUTPUT	2.3	μμf
TRIODE GRID TO PENTODE PLATE	0.005	μμf
PENTODE GRID #1 TO TRIODE PLATE	0.006	μμf
PENTODE PLATE TO TRIODE PLATE	0.045	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

CLASS A_1 AMPLIFIER -- DESIGN CENTER VALUES

	TRIODE UNIT		PENTODE UNIT	
HEATER VOLTAGE	4.7			VOLTS
MAXIMUM PEAK 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[A]		200[A]	VOLTS
MAXIMUM PLATE VOLTAGE	300		300	VOLTS
MAXIMUM GRID #2 SUPPLY VOLTAGE	---		300	VOLTS
MAXIMUM GRID #2 VOLTAGE	---		SEE CURVE #1	
MAXIMUM GRID #1 VOLTAGE				
POSITIVE BIAS VALUE	0		0	VOLTS
MAXIMUM PLATE DISSIPATION	2.6	←	2.0	WATTS
MAXIMUM GRID #2 INPUT	---		0.5	WATT
MAXIMUM GRID #1 CIRCUIT RESISTANCE:[B]				
FOR CATHODE-BIAS OPERATION	1.0		1.0	MEGOHM
FOR FIXED-BIAS OPERATION	0.5		0.25	MEGOHM
HEATER WARM-UP TIME (APPROX.)*	11.0			SEC.

[A] THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

[B] IF EITHER UNIT IS OPERATING AT MAXIMUM RATED CONDITIONS, GRID #1 CIRCUIT RESISTANCES FOR BOTH UNITS SHOULD NOT EXCEED THE STATED VALUES.

*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.

CONTINUED ON FOLLOWING PAGE

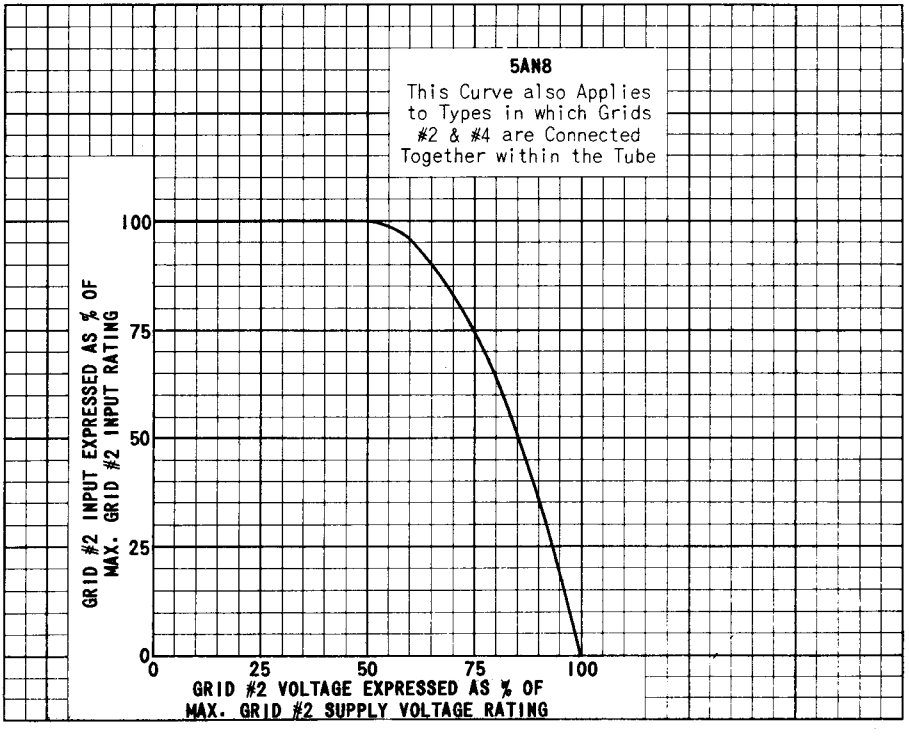
→ INDICATES A CHANGE.

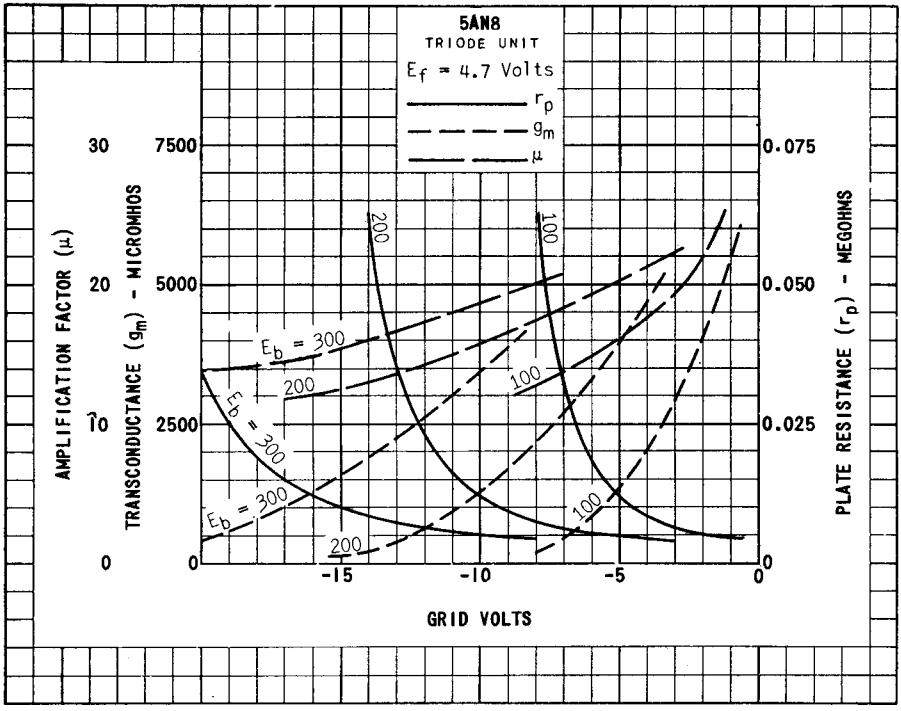
TUNG-SOL

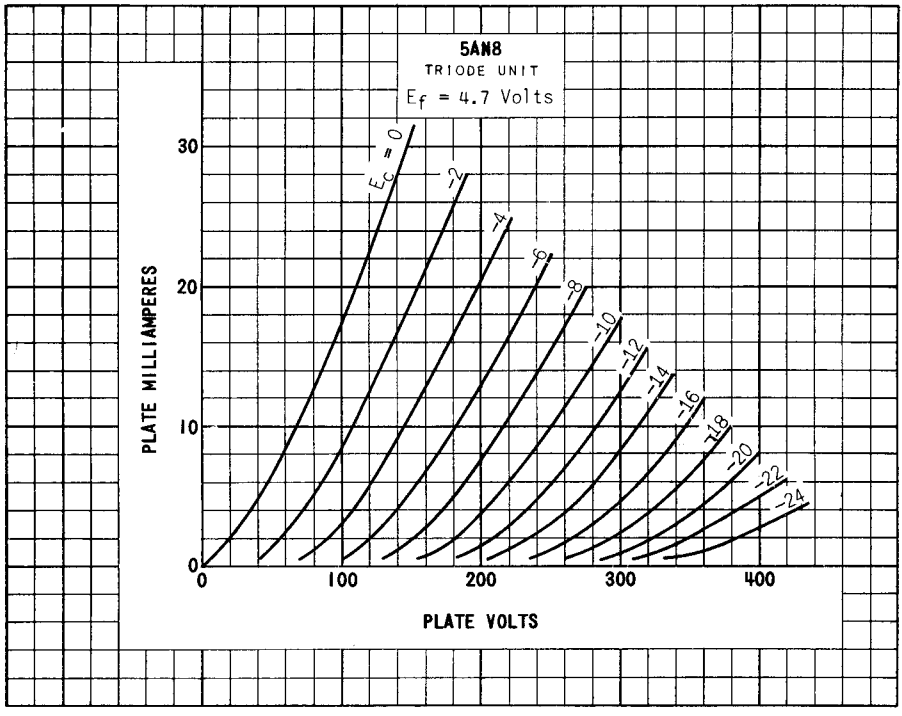
CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

	TRIODE UNIT	PENTODE UNIT	
HEATER VOLTAGE	4.7		VOLTS
HEATER CURRENT	0.6		AMP.
PLATE SUPPLY VOLTAGE	200	200	VOLTS
GRID #2 SUPPLY VOLTAGE	---	150	VOLTS
GRID #1 VOLTAGE	-6	---	VOLTS
CATHODE BIAS RESISTOR	---	180	OHMS
AMPLIFICATION FACTOR	19	---	
PLATE RESISTANCE (APPROX.)	5 750	300 000	OHMS
TRANSCONDUCTANCE	3 300	6 200	µMHOS
GRID #1 BIAS (APPROX.) FOR I_b = 10 µA.	-19	-8	VOLTS
PLATE CURRENT	13	9.5	MA.
GRID #2 CURRENT	---	2.8	MA.







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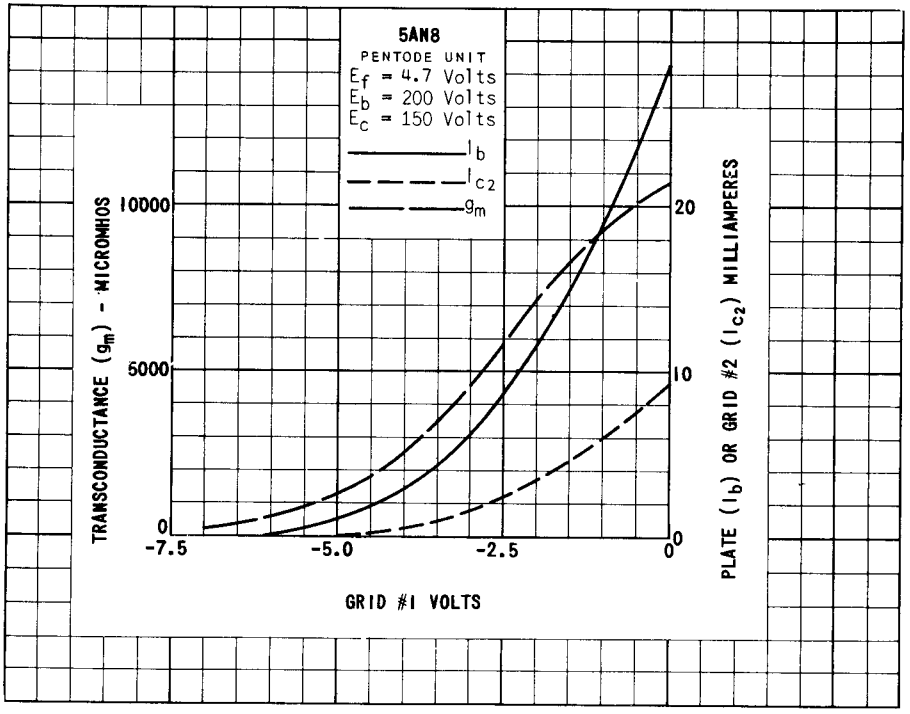
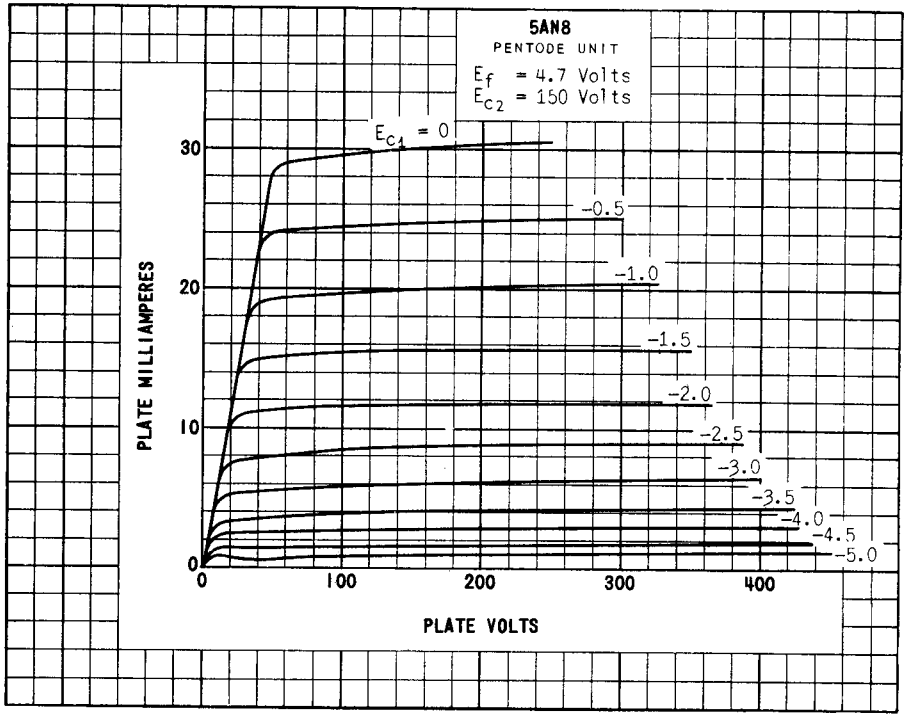

5AN8
PENTODE UNIT
E_f = 4.7 Volts
E_b = 200 Volts
E_c = 150 Volts
I_b
I_{c2}
g_m
TRANSCONDUCTANCE (g_m) - MICROMHOS
10000
5000
0
-7.5
-5.0
-2.5
0
20
10
0
PLATE (I_b) OR GRID #2 (I_{c2}) MILLIAMPERES
GRID #1 VOLTS


5AN8
PENTODE UNIT
E_f = 4.7 Volts
E_{c2} = 150 Volts
E_{c1} = 0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
-5.0
PLATE MILLIAMPERES
30
20
10
0
0
100
200
300
400
PLATE VOLTS