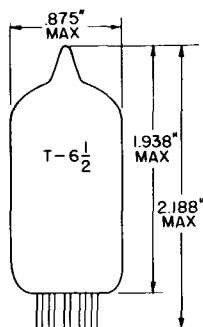


TUNG-SOL

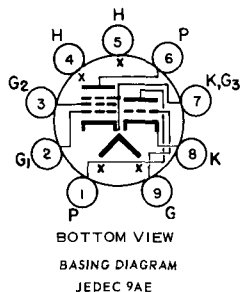
TRIODE PENTODE
MINIATURE TYPE

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

COATED UNIPOTENTIAL CATHODE

FOR
APPLICATION IN FM
OR TV RECEIVERS

ANY MOUNTING POSITION



THE 5U8 COMBINES TWO ELECTRICALLY INDEPENDENT SECTIONS—A TRIODE AND A PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. BOTH UNITS ARE CAPABLE OF GOOD PERFORMANCE AT THE HIGH FREQUENCIES. THE TUBE MAY BE USED AS A LOCAL OSCILLATOR-PENTODE MIXER IN FM OR TELEVISION RECEIVERS OR IN THE MANY COMBINED FUNCTIONS OF SUCH RECEIVERS. IN

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD A	WITHOUT SHIELD	
PENTODE GRID 1 TO PENTODE PLATE: (PG1 TO PP) MAX.	→ 0.007	→ 0.015	pf
PENTODE INPUT: PG1 TO (H+PK+PG2+PG3+I.S.)	5.0	5.0	pf
PENTODE OUTPUT: PP TO (H+PK+PG2+PG3+I.S.)	3.5	2.6	pf
PENTODE CATHODE TO HEATER: H TO (PK+PG3+I.S.)	3.0 ^B	3.0	pf
TRIODE GRID TO TRIODE PLATE: (TG TO TP)	1.8	1.8	pf
TRIODE INPUT: TG TO (TK+H+PK+PG3+I.S.)	2.8	2.8	pf
TRIODE OUTPUT: TP TO (TK+H+PK+PG3+I.S.)	2.0	1.5	pf
TRIODE CATHODE TO HEATER (TK TO H)	3.0 ^B	3.0	pf
PENTODE GRID TO TRIODE PLATE (PG TO TP) (MAX.)	0.20	0.2	pf
PENTODE PLATE TO TRIODE PLATE (PP TO TP) (MAX.)	0.02	0.1	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	4.7 VOLTS	600	MA.
HEATER WARM-UP TIME ^C		11	SECONDS
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		600±40	MA.
MAXIMUM HEATER CATHODE VOLTAGE: (EACH UNIT)			
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

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

PENTODE PLATE VOLTAGE	330	VOLTS
TRIODE PLATE VOLTAGE	330	VOLTS
GRID 2 SUPPLY VOLTAGE	330	VOLTS
GRID 2 VOLTAGE	SEE RATING CHART	
PENTODE PLATE DISSIPATION	3.0	WATTS
GRID 2 DISSIPATION: *		
FOR VOLTAGES UP TO 165 VOLTS	0.55	WATTS
FOR VOLTAGES BETWEEN 165 & 330 VOLTS	SEE RATING CHART	
POSITIVE DC GRID 1 VOLTAGE	0	VOLTS
POSITIVE DC TRIODE GRID VOLTAGE	0	VOLTS
TRIODE PLATE DISSIPATION	2.5	WATTS
PENTODE GRID 1 CIRCUIT RESISTANCE:*		
WITH CATHODE BIAS	1.0	MEGOHM
WITH FIXED BIAS	0.5	MEGOHM

TYPICAL OPERATING CHARACTERISTICS**CLASS A₁ AMPLIFIER**

	TRIODE	PENTODE	
PLATE VOLTAGE	125	125	VOLTS
GRID 2 VOLTAGE	----	110	VOLTS
GRID 1 VOLTAGE	-1.0	-1.0	VOLTS
TRANSCONDUCTANCE	7500	5000	μ MHOS
PLATE CURRENT	13.5	9.5	MA.
GRID 2 CURRENT	----	3.5	MA.
PLATE RESISTANCE (APPROX.)	----	0.2	MEGOHM
AMPLIFICATION FACTOR	40	----	
GRID 1 VOLTAGE (APPROX.) FOR $I_b = 20 \mu A$	-9	-8	VOLTS
ZERO BIAS TRANSCONDUCTANCE (WITH $E_b = 100 V$; $E_c2 = 70 V$)*	----	5500	μ MHOS

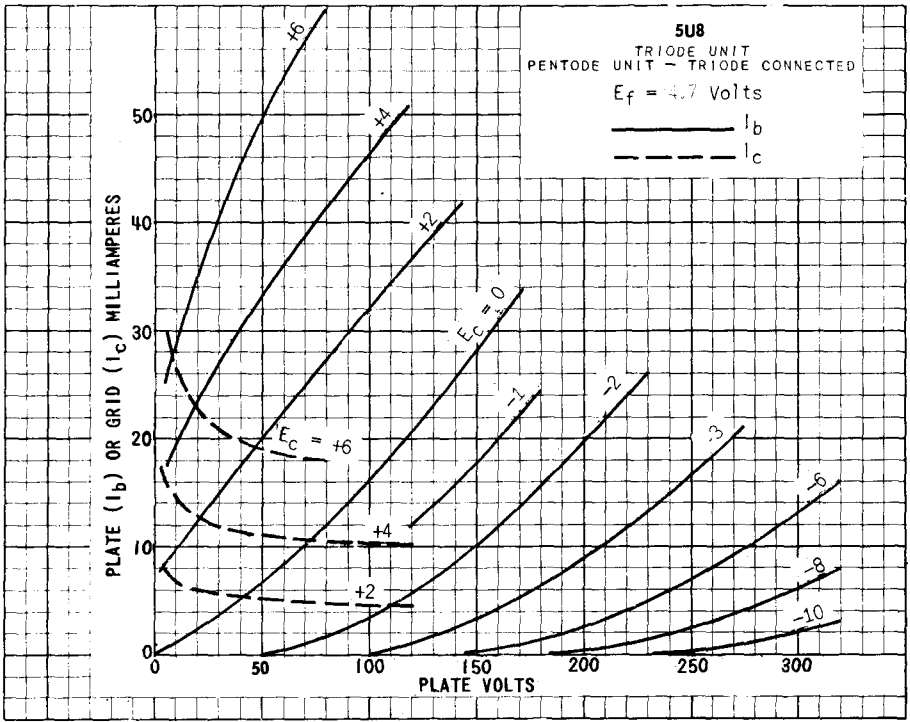
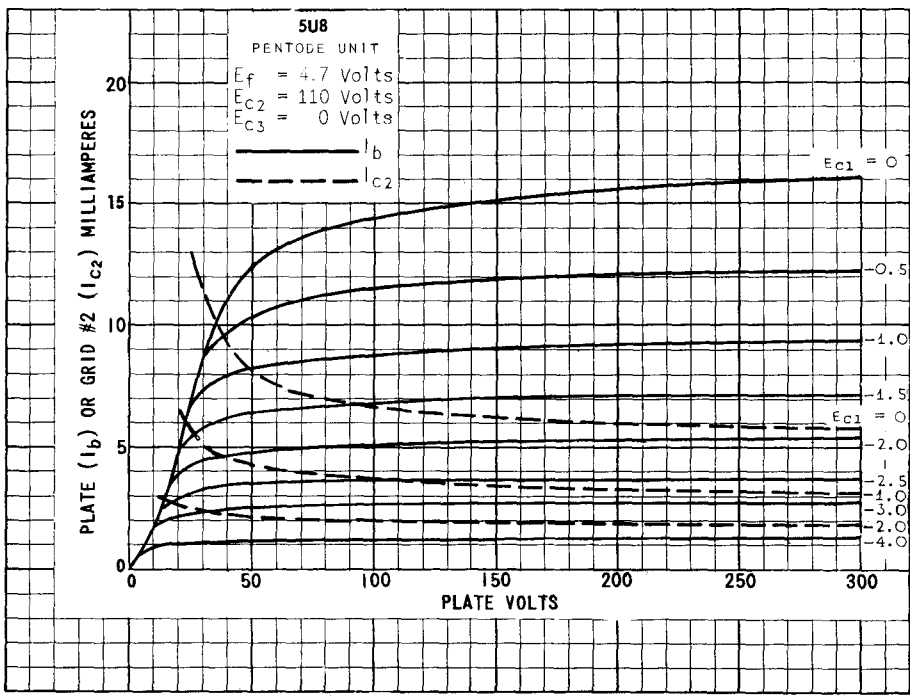
A
EXTERNAL SHIELD 315 CONNECTED TO PIN 4.

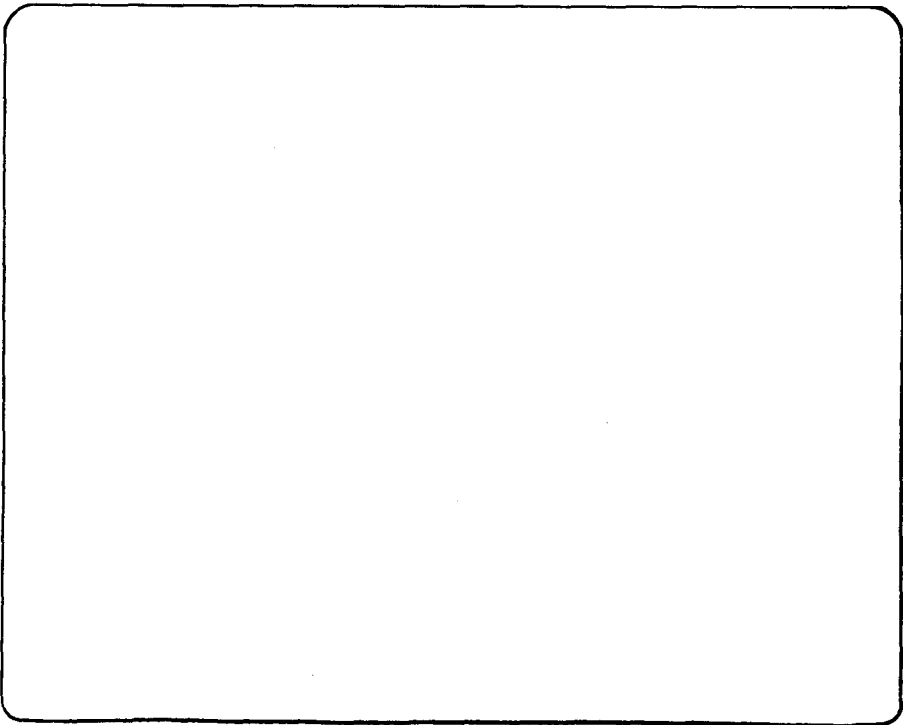
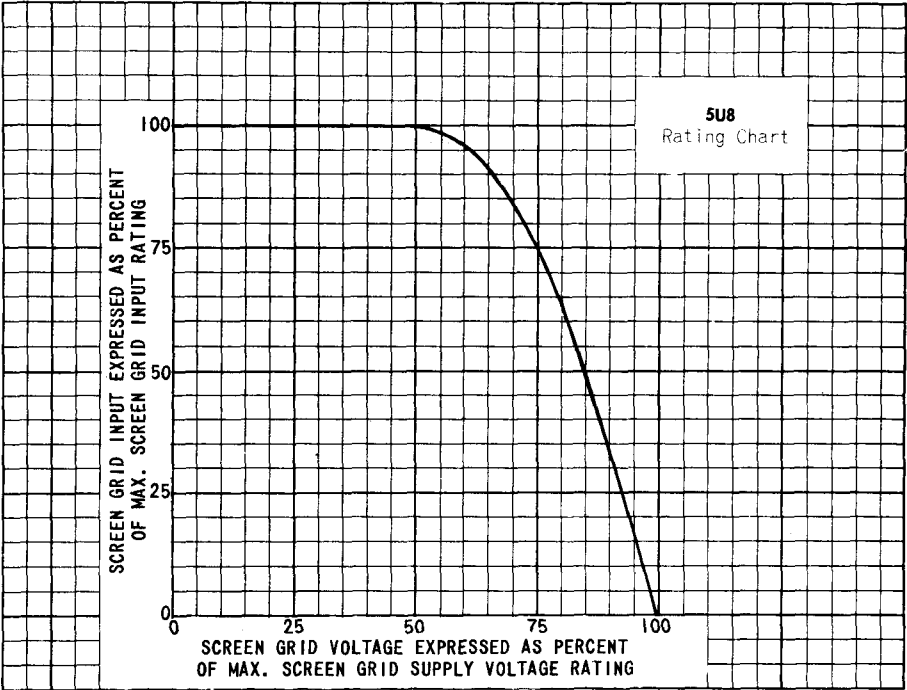
B
EXTERNAL SHIELD 315 CONNECTED TO PIN 6.

C
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 THREE TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

→ INDICATES A CHANGE.

* INDICATES AN ADDITION.





508
PENTODE UNIT
MIXER CHARACTERISTICS
WITH
SEPARATE OSCILLATOR EXCITATION

$E_f = 4.7$ Volts
 $E_b = E_{c2} = 150$ Volts DC
 $E_{c3} = 0$ Volts
 $R_{c1} = 270\ 000$ Ohms

_____ I_b
 ----- I_{c2}
 ----- g_c

