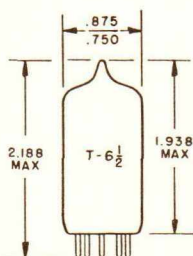


TUNG-SOL

TRIODE PENTODE

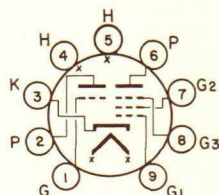
MINIATURE TYPE

FOR
CONVERTER SERVICE



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

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9DW

THE 5AT8 IS A MULTI-UNIT TUBE USING THE 9 PIN MINIATURE CONSTRUCTION. IT CONTAINS A MEDIUM-MU TRIODE AND A SHARP CUT-OFF PENTODE WITH A COMMON CATHODE IN ONE ENVELOPE. IT IS DESIGNED PRIMARILY FOR USE IN 600 MA. SERIES HEATER OPERATED TELEVISION RECEIVERS UTILIZING AN INTERMEDIATE FREQUENCY IN THE ORDER OF 40 MC. 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.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD #315	WITHOUT SHIELD	
PENTODE GRID 1 TO PENTODE PLATE: (PG1 TO PP) MAX.	→ 0.03	→ 0.06	pf
PENTODE INPUT: PG1 TO (H+K+PG2+PG3)	→ 4.8	→ 4.6	pf
PENTODE OUTPUT: PP TO (H+K+PG3+PG2)	1.6	0.9	pf
CATHODE TO HEATER (K TO H)	→ 6.0	→ 6.0	pf
TRIODE GRID TO TRIODE PLATE: (TG TO TP)	1.5	1.5	pf
TRIODE INPUT: TG TO (H+K)	2.4	2.0	pf
TRIODE OUTPUT: TP TO (H+K)	1.0	0.5	pf
PENTODE GRID 1 TO TRIODE PLATE: (PG1 TO TP) MAX.	0.04	0.05	pf
PENTODE PLATE TO TRIODE PLATE: (PP TO TP) MAX.	0.008	0.05	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	4.7	VOLTS	600	MA.
HEATER WARM-UP TIME ^A			11	SECONDS
LIMITS OF SUPPLIED CURRENT			600 ± 40	MA.

^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 THREE TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

CONTINUED FROM PRECEDING PAGE

HEATER CHARACTERISTICS AND RATINGS - CONT'D.

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

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 RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

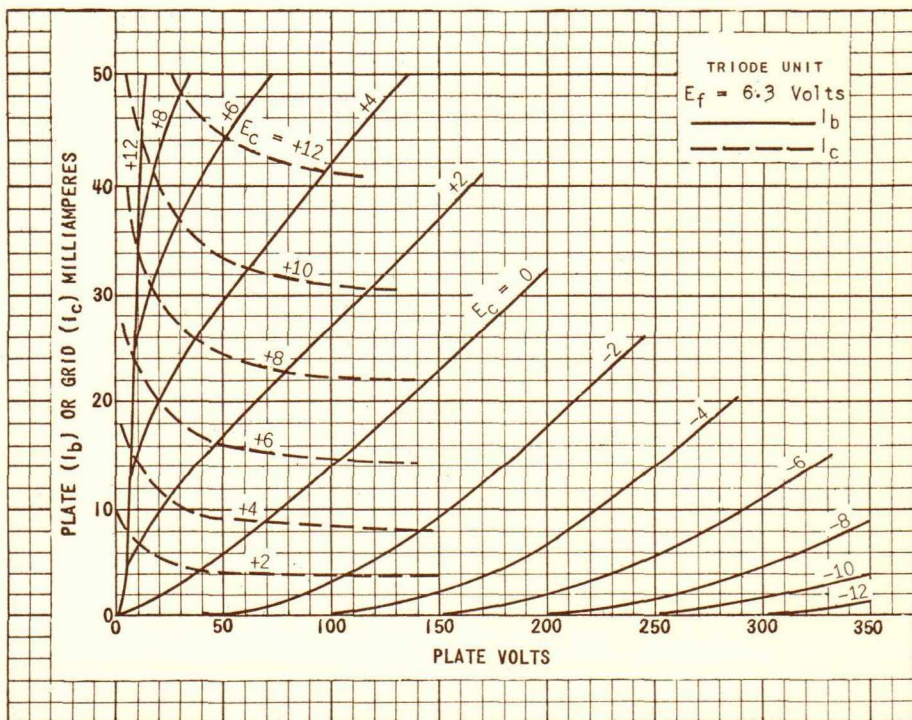
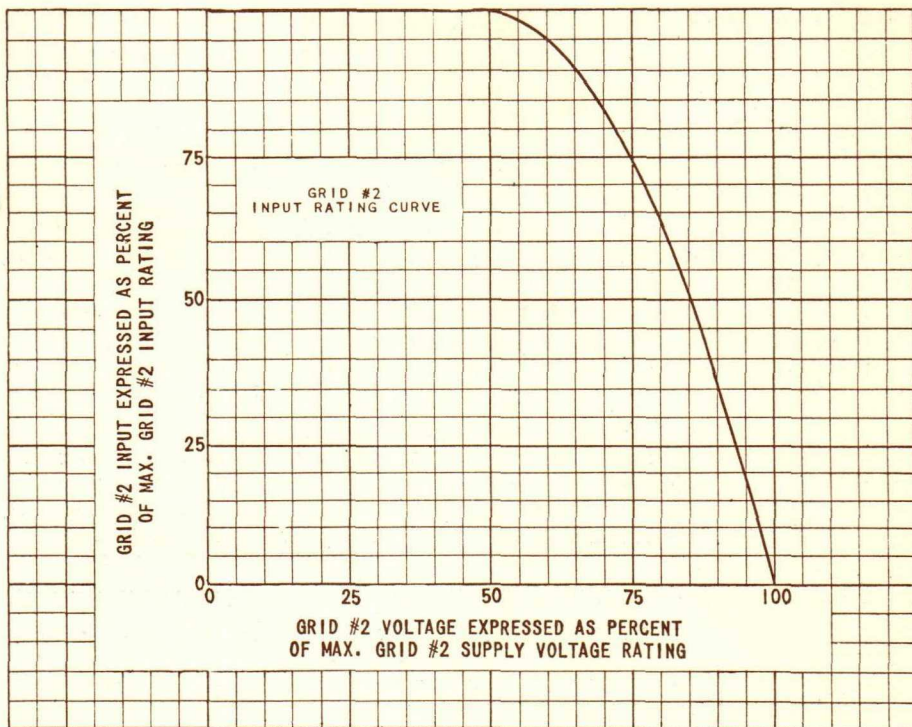
PENTODE PLATE VOLTAGE	275	VOLTS
TRIODE PLATE VOLTAGE	275	VOLTS
GRID 2 SUPPLY VOLTAGE	275	VOLTS
GRID 2 VOLTAGE	See Rating Chart	
PENTODE PLATE DISSIPATION	2.3	WATTS
GRID 2 DISSIPATION	0.45	WATTS
POSITIVE DC GRID 1 VOLTAGE	0	VOLTS
POSITIVE DC TRIODE GRID VOLTAGE	0	VOLTS
TRIODE PLATE DISSIPATION	1.7	VOLTS

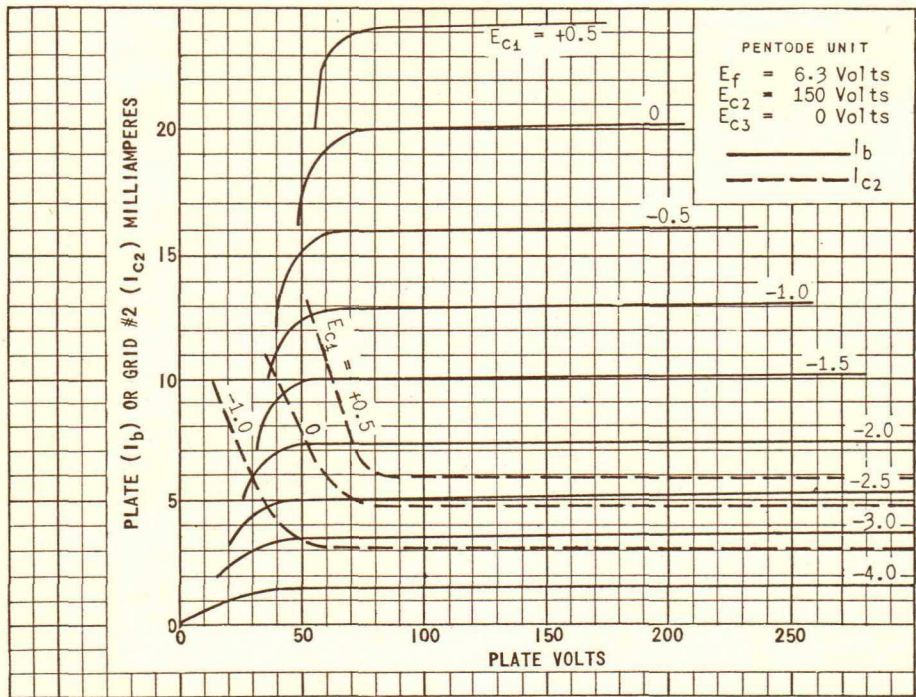
TYPICAL OPERATING CHARACTERISTICS

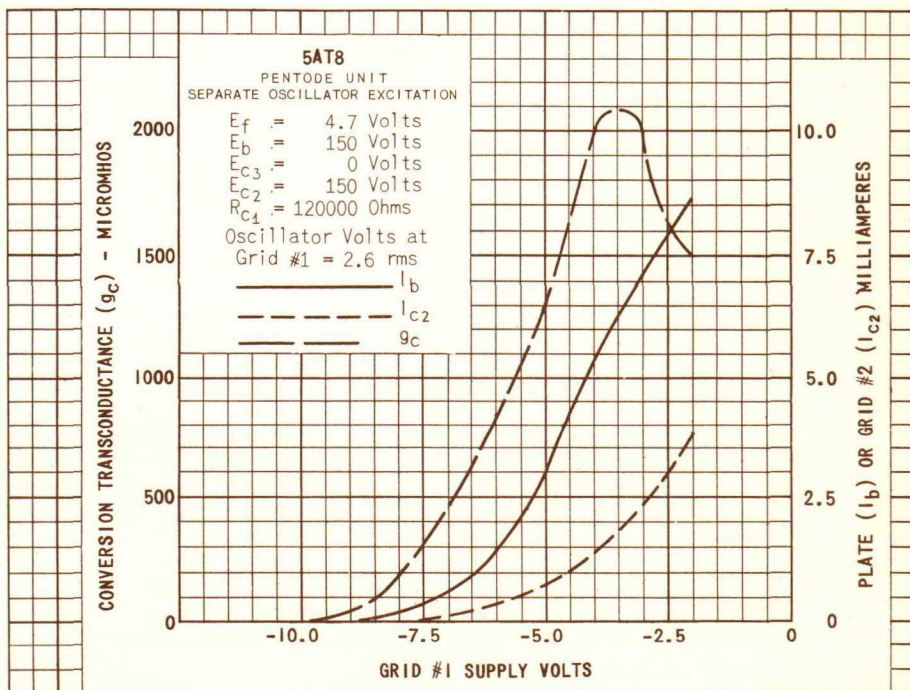
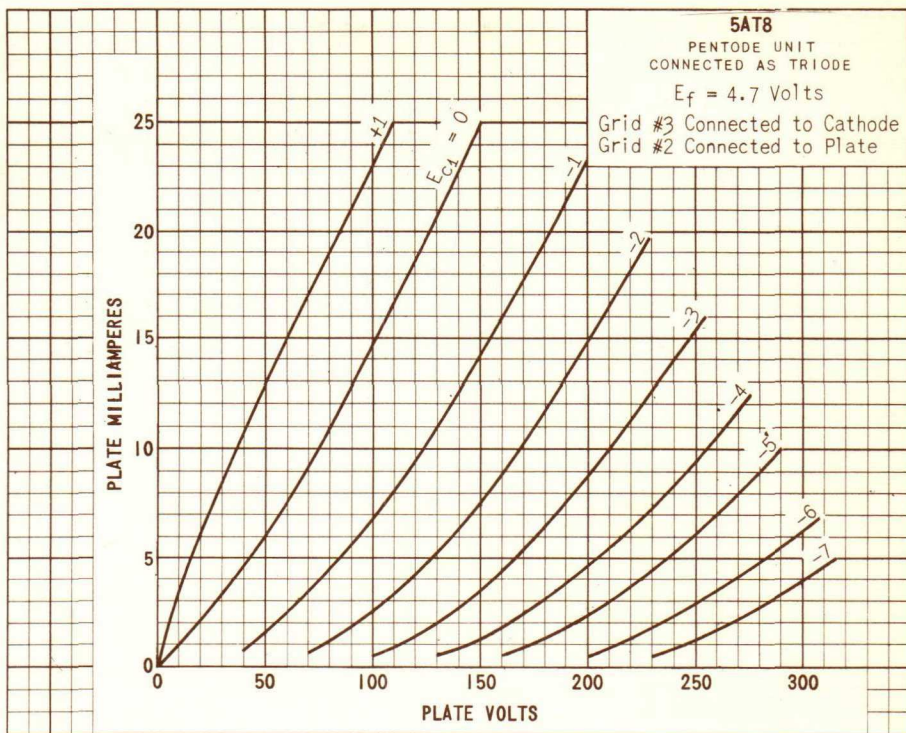
CLASS A1 AMPLIFIER

	PENTODE	TRIODE	
PLATE VOLTAGE	125	125	VOLTS
GRID 3 VOLTAGE	Connected to pin 3 at socket		
GRID 2 VOLTAGE	125	-----	
GRID 1 VOLTAGE	-1.0	-1.0	VOLTS
PLATE CURRENT	9.0	12.0	MA.
GRID 2 CURRENT	2.2	-----	MA.
TRANSCONDUCTANCE	5,500	6,500	μMHOS
PLATE RESISTANCE	300,000	6,000	OHMS
AMPLIFICATION FACTOR	-----	40	
(APPROX.)			
GRID 1 VOLTAGE (APPROX.) FOR $I_b = 20 \mu A$	-6.5	-7	VOLTS
ZERO BIAS TRANSCONDUCTANCE	5,700	-----	μMHOS
(WITH $E_b = 100 V$; $E_c = 70 V$)			

→ INDICATES A CHANGE.







5AT8

