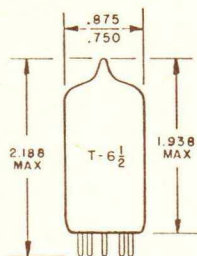


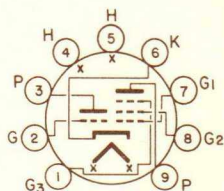
TUNG-SOL

TRIODE PENTODE
MINIATURE TYPE

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

FOR
USE AS A COMBINED OSCILLATOR
AND MIXER TUBE IN T.V. RECEIVERS

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9AK

THE 6X8 AND 6X8A ARE MULTI-UNIT TUBES USING THE 9 PIN MINIATURE CONSTRUCTION. THEY CONTAIN A MEDIUM-MU TRIODE AND A SHARP-CUTOFF PENTODE IN ONE ENVELOPE. THEY ARE DESIGNED PRIMARILY FOR USE AS COMBINED OSCILLATORS AND MIXER TUBES IN TELEVISION RECEIVERS UTILIZING AN INTERMEDIATE FREQUENCY IN THE ORDER OF 40 MC. THEY ARE ESPECIALLY SUITABLE FOR USE IN AM/FM RECEIVERS. THERMAL CHARACTERISTICS OF THE HEATER OF THE 6X8A 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 ^A	WITHOUT SHIELD	
PENTODE GRID 1 TO PENTODE PLATE: (PG1 TO PP) MAX.	0.06	0.09	pf
PENTODE INPUT: PG1 TO (H+K+PG2+PG3)	→ 4.8	→ 4.6	pf
PENTODE OUTPUT: PP TO (H+K+PG2+PG3)	→ 1.6	→ 0.9	pf
CATHODE TO HEATER: (K TO H)	→ 6.5 ^B	→ 6.5	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	6.3	VOLTS	450	MA.
HEATER WARM-UP TIME ^C (FOR 6X8A ONLY)			11	SECONDS
LIMITS OF APPLIED VOLTAGE			6.3 ± 0.6	VOLTS
LIMITS OF SUPPLIED CURRENT (6X8A ONLY)			600 ± 40	MA.
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

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

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
TRIODE PLATE DISSIPATION	1.7	WATTS
GRID 2 DISSIPATION - UP TO 138 VOLTS	0.45	WATTS
POSITIVE DC GRID 1 VOLTAGE	0	VOLTS
POSITIVE DC TRIODE GRID VOLTAGE	0	VOLTS

→ TYPICAL OPERATING CHARACTERISTICS

CLASS A1 AMPLIFIER

	TRIODE	PENTODE	
PLATE VOLTAGE	125	125	VOLTS
GRID 3 VOLTAGE	CONNECTED TO PIN 6 AT SOCKET		
GRID 2 VOLTAGE	----	125	VOLTS
GRID 1 VOLTAGE	-1.0	-1.0	VOLTS
PLATE CURRENT	12.0	9.0	MA.
GRID 2 CURRENT	----	2.2	MA.
TRANSCONDUCTANCE	6,500	5,500	μ MHOS
PLATE RESISTANCE	APPROX. 6,000	300,000	OHMS
AMPLIFICATION FACTOR	40	----	
GRID 1 VOLTAGE APPROX. FOR $I_b = 20 \mu A$.	-7	-6.5	VOLTS
ZERO BIAS TRANSCONDUCTANCE			
WITH $E_b = 100 V$; $E_{c2} = 70 V$.	----	5,700	μ MHOS

A

EXTERNAL SHIELD 315 CONNECTED TO PIN 6.

B

EXTERNAL SHIELD 315 CONNECTED TO PIN 9.

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.

