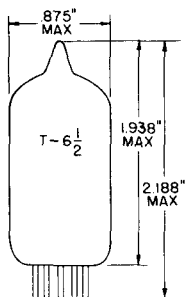


TUNG-SOL

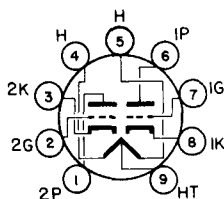
TWIN TRIODE
MINIATURE TYPE

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

UNIPOTENTIAL CATHODE

FOR
AUDIO FREQUENCY AMPLIFIER
OR COMBINED OSCILLATOR AND
MIXER APPLICATIONS IN
T.V. RECEIVERS

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM

JEDEC 9A

THE 9AU7 COMBINES TWO INDEPENDENT MEDIUM-MU INDIRECTLY HEATED CATHODE TYPE TRIODES IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS ADAPTABLE TO APPLICATION EITHER AS AN AUDIO FREQUENCY AMPLIFIER OR AS A COMBINED OSCILLATOR AND MIXER IN 450 MA. SERIES HEATER OPERATED 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 AND HEATER WARM-UP TIME IT IS IDENTICAL TO THE 12AU7A.

→ DIRECT INTERELECTRODE CAPACITANCES

	TRIODE UNIT T ₁	TRIODE UNIT T ₂	
GRID TO PLATE	1.5	1.5	pf
GRID TO CATHODE	1.6	1.6	pf
PLATE TO CATHODE	0.50	0.35	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS			
HEATER IN SERIES	9.4 VOLTS	225	MA.
HEATER IN PARALLEL	4.7 VOLTS	450	MA.
HEATER WARM-UP TIME (AVG.) (IN PARALLEL)		11	SECONDS
HEATER SUPPLY LIMITS:			
VOLTAGE OPERATION (IN SERIES)		9.4±0.9	VOLTS
CURRENT OPERATION (IN PARALLEL)		450±30	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

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

VALUES ARE FOR EACH UNIT

	CLASS A1 AMPLIFIER	VERTICAL DEFLECTION OSCILLATOR	
PLATE VOLTAGE	330	330	VOLTS
PLATE DISSIPATION:			
EACH PLATE	2.75	2.75	WATTS
BOTH PLATES	5.5	5.5	WATTS
CATHODE CURRENT	22		MA.
PEAK NEGATIVE PULSE GRID VOLTAGE		440	VOLTS
AVERAGE CATHODE CURRENT		22	MA.
PEAK CATHODE CURRENT		66	MA.

MAXIMUM CIRCUIT VALUES:

GRID CIRCUIT RESISTANCE:			
FOR FIXED BIAS, GRID-RESISTOR BIAS,			
OR CATHODE-BIAS OPERATION	2.2	2.2	MEGOHMS

	HORIZONTAL DEFLECTION OSCILLATOR	VERTICAL DEFLECTION AMPLIFIER	
DC PLATE VOLTAGE	330	330	VOLTS
PLATE DISSIPATION			
EACH PLATE	2.75	2.75	WATTS
BOTH PLATES	5.5	5.5	WATTS
PEAK POSITIVE-PULSE PLATE VOLTAGE		1200	VOLTS
PEAK NEGATIVE-PULSE GRID VOLTAGE	660	275	VOLTS
AVERAGE CATHODE CURRENT	22	22	MA.
PEAK CATHODE CURRENT	330	66	MEGOHMS

MAXIMUM CIRCUIT VALUES:

GRID CIRCUIT RESISTANCE:			
FOR FIXED BIAS, GRID-RESISTOR BIAS,			
OR CATHODE-BIAS OPERATION	2.2	2.2	MEGOHMS

TYPICAL OPERATING CHARACTERISTICS

CLASS A1 AMPLIFIER - EACH UNIT

PLATE VOLTAGE	100	250	VOLTS
GRID VOLTAGE	0	-8.5	VOLTS
AMPLIFICATION FACTOR	→ 19.5	17	
PLATE RESISTANCE	→ 6250	7700	OHMS
TRANSCONDUCTANCE	3100	2200	μMHOS
PLATE CURRENT	11.8	10.5	MA.
GRID VOLTAGE (APPROX.) FOR PLATE CURRENT OF 10 μAMP.		24	VOLTS

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.

→ INDICATES A CHANGE.