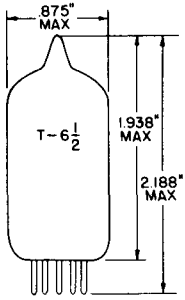
TUNG-SOL

TWIN TRIODE

MINIATURE TYPE

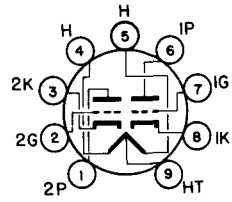


GLASS BULB
SMALL BUTTON NOVAL
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-2

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 12AU7A 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. EXCEPT FOR HEATER RATINGS IT IS IDENTICAL TO THE 7AU7 AND THE 9AU7.

→ 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	12.6 VOLTS	150	MA.
HEATER IN PARALLEL	6.3 VOLTS	300	MA.
HEATER SUPPLY LIMITS:			
VOLTAGE OPERATION			
HEATER IN SERIES		12.6±1.3	VOLTS
HEATER IN PARALLEL		6.3±0.6	VOLTS
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

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→ 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

→ INDICATES A CHANGE.