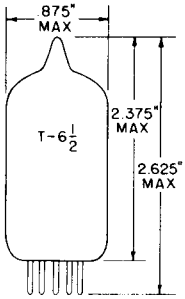
TUNG-SOL

TRIODE PENTODE

MINIATURE TYPE

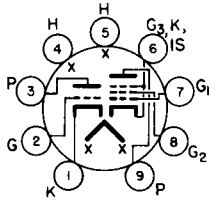


GLASS BULB
MINIATURE BUTTON
9 PIN BASE E9-1
JEDEC 6-3

COATED UNIPOTENTIAL CATHODE

FOR
600 MA. SERIES HEATER OPERATED
MONOCHROME AND COLOR
TV RECEIVERS

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM
JEDEC 9DX

THE 6AU8A IS A GENERAL-PURPOSE MINIATURE TUBE CONTAINING A SHARP CUT-OFF PENTODE AND A MEDIUM-MU TRIODE IN ONE ENVELOPE. EACH SECTION HAS ITS OWN CATHODE AND IS ELECTRICALLY INDEPENDENT. IT IS DESIGNED FOR USE IN 600 MA. SERIES HEATER OPERATED MONOCHROME AND COLOR 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 THAT ARE SIMILARLY CONTROLLED. THE PENTODE SECTION IS PARTICULARLY SUITED FOR USE AS A VIDEO AMPLIFIER, VIDEO IF AMPLIFIER AND SOUND IF AMPLIFIER. THE TRIODE SECTION IS INTENDED FOR USE AS A SYNC AMPLIFIER, SEPARATOR OR CLIPPER OR AS A SWEEP OSCILLATOR.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

	PENTODE SECTION	TRIODE SECTION	
GRID TO PLATE	0.06	2.2	pf
INPUT	7.5	2.6	pf
OUTPUT	3.4	0.34	pf

PENTODE GRID 2 TO TRIODE PLATE (MAX.)	0.006	pf
TRIODE GRID TO PENTODE PLATE (MAX.)	→ 0.022	pf
PENTODE PLATE TO TRIODE PLATE (MAX.)	0.12	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	600	MA.
HEATER WARM-UP TIME[A]		11	SECONDS
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		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

→ MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

	TRIODE SECTION	PENTODE SECTION	
PLATE VOLTAGE	330	330	VOLTS
GRID 2 VOLTAGE	----	SEE RATING CHART	
GRID 2 SUPPLY VOLTAGE	----	330	VOLTS
POSITIVE DC GRID 1 VOLTAGE	0	0	VOLTS
PLATE DISSIPATION	2.8	3.3	WATTS
GRID 2 INPUT:			
FOR GRID 2 VOLTAGES UP TO 165 VOLTS	----	1.0	WATT
FOR GRID 2 VOLTAGES BETWEEN 165 & 330 V.	----	SEE RATING CHART	
GRID 1 CIRCUIT RESISTANCE:			
WITH FIXED BIAS	0.5	0.25	MEGOHMS
WITH CATHODE BIAS	1.0	1.0	MEGOHMS

TYPICAL OPERATING CHARACTERISTICS

CLASS A 1 AMPLIFIER

	PENTODE SECTION	TRIODE SECTION	
PLATE VOLTAGE	200	150	VOLTS
GRID 2 VOLTAGE	125	----	VOLTS
CATHODE BIAS RESISTOR	82	150	OHMS
AMPLIFICATION FACTOR	----	40	
TRANSCONDUCTANCE	7000	4900	μMHOS
PLATE CURRENT	15	9.0	MA.
PLATE RESISTANCE (APPROX.)	150,000	8200	OHMS
GRID 2 CURRENT	2.4	----	MA.
GRID 1 VOLTAGE (APPROX.) FOR Ib =100 μAMP.	-8	-6.5	VOLTS
ZERO BIAS: *			
(WITH Eb=40 V., Ec2=125, instantaneous value)			
PLATE CURRENT	28	----	MA.
GRID 2 CURRENT	10	----	MA.

A

HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 85% 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.

NOTE:

THE TRIODE SECTION OF THE 6AU8A MAY BE DIODE-CONNECTED AND EMPLOYED AS A HIGH-PERVEANCE DIODE IN VIDEO-DETECTOR APPLICATIONS. THE DIODE OPERATION CAN BE OBTAINED EITHER WITH THE TRIODE GRID CONNECTED TO THE TRIODE PLATE AND THE COMBINATION OPERATED AS THE PLATE OF THE DIODE, OR WITH THE TRIODE PLATE GROUNDED AND THE TRIODE GRID OPERATED AS THE PLATE OF THE DIODE.

THE 6AU8 CURVES, ALSO, APPLY FOR THE 6AU8A.

→ INDICATES A CHANGE.

*INDICATES AN ADDITION.