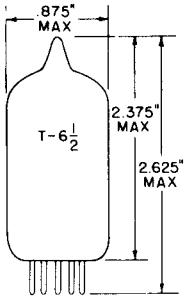
TUNG-SOL

DUO-DIODE PENTODE

MINIATURE TYPE



GLASS BULB
SMALL BUTTON
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-3

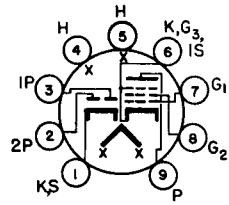
COATED UNIPOTENTIAL CATHODE

HEATER

8.0 VOLTS 0.60 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9LT

THE 8ET7 IS A DUO-DIODE SHARP-CUTOFF PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. THE TUBE IS DESIGNED PRIMARILY FOR USE AS A COMBINED VIDEO AMPLIFIER AND HORIZONTAL PHASE DETECTOR IN TELEVISION RECEIVERS.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

PENTODE SECTION

GRID #1 TO PLATE, MAX.	0.1	pf
INPUT: G1 TO (H+Pk+G3, I.S.+G2 Dk,DSh)	10	pf
OUTPUT: P TO (H+Pk+G3, I.S.+G2 Dk,DSh)	4.2	pf

DIODE SECTION (EACH DIODE)

DIODE PLATE TO (h+Dk, Dsh+Pk, G3, I.S.)	1.5	pf
DIODE CATHODE; DIODE SHIELD TO (h+Dp+Pk, G3, I.S)	7.5	pf

COUPLING

PENTODE GRID #1 TO DIODE PLATE (EACH DIODE) (MAX)	.005	pf
PENTODE PLATE TO DIODE PLATE (EACH DIODE) (MAX.)	.02	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE	8.0	VOLTS
MAXIMUM PLATE VOLTAGE	330	VOLTS
MAXIMUM #2 SUPPLY VOLTAGE	330	VOLTS
MAXIMUM #2 VOLTAGE	SEE RATING CHART	
MAXIMUM POSITIVE GRID #1 VOLTAGE	0	VOLTS
MAXIMUM PLATE DISSIPATION	5.0	WATTS
MAXIMUM GRID #2 DISSIPATION	1.1	WATT
MAXIMUM GRID #1 CIRCUIT RESISTANCE:		
CATHODE BIAS	0.25	MEGOHMS
FIXED BIAS	0.1	MEGOHMS
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
HEATER WARM-UP TIME (APPROX)*	11.0	SECONDS

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

PENTODE – CLASS A_1 AMPLIFIER

HEATER VOLTAGE	8.0	VOLTS
HEATER CURRENT	0.60	AMP.
PLATE VOLTAGE	200	VOLTS
GRID #2 VOLTAGE	150	VOLTS
CATHODE BIAS RESISTOR	100	OHMS
PLATE CURRENT	25	MA.
GRID #2 CURRENT	5.5	MA.
TRANSCONDUCTANCE	11 500	μMHOS
PLATE RESISTANCE (APPROX.)	60 000	OHMS
Ec1 FOR Ib = 100 μA (APPROX.)	-10	VOLTS
AVERAGE DIODE CURRENT WITH 10 VOLTS DC APPLIED (EACH DIODE)	1.5	MA.
INSTANTANEOUS PLATE KNEE VALUES Eb = 60V, Ec2 = 150, AND Ec1 = 0 V; Ib = 55 MA AND Ic2 = 18 MA.		

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

*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.