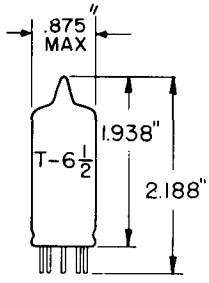
TUNG-SOL

DUO-DIODE TETRODE

MINIATURE TYPE



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

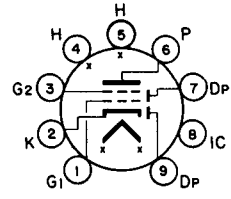
COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS 0.250 AMP. ←

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9JX

THE 12DU7 IS A DUO – DIODE, TETRODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE AS A COMBINED DETECTOR, AVC RECTIFIER AND AUDIO POWER AMPLIFIER DRIVER IN APPLICATIONS WHERE THE HEATER, PLATE, AND SCREEN VOLTAGES ARE OBTAINED DIRECTLY FROM AN AUTOMOTIVE STORAGE BATTERY.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

TETRODE SECTION:		
GRID #1 TO PLATE	0.6	pf
INPUT: G1 TO (H+TK+G2)	11	pf
OUTPUT: P TO (H+TK+G2)	3.6	pf
GRID #1 TO DIODE PLATE #1 (MAX.)	0.22	pf
GRID #1 TO DIODE PLATE #2 (MAX.)	0.12	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM[B]

MAXIMUM HEATER–CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	16	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	16	VOLTS
MAXIMUM PLATE VOLTAGE	16	VOLTS
MAXIMUM GRID #2 VOLTAGE	16	VOLTS
MAXIMUM GRID #1 RESISTANCE	10	MEGOHMS
MAXIMUM AVERAGE DIODE CURRENT (EACH DIODE)	1.0	MA.

THIS TUBE IS INTENDED TO BE USED IN AUTOMOTIVE SERVICE FROM A NOMINAL 12 VOLT BATTERY SOURCE. THE HEATER IS THEREFORE DESIGNED TO OPERATE OVER THE 10.0 TO 15.9 VOLTAGE RANGE ENCOUNTERED IN THIS SERVICE. THE MAXIMUM RATINGS OF THE TUBE PROVIDE FOR AN ADEQUATE SAFETY FACTOR SUCH THAT THE TUBE WILL WITHSTAND THE WIDE VARIATION IN SUPPLY VOLTAGES.

→ INDICATES A CHANGE

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

PLATE VOLTAGE	12.6	VOLTS
GRID #2 VOLTAGE	12.6	VOLTS
GRID #1 RESISTOR[C]	2.2	MEGOHMS
AF GRID VOLTAGE (RMS)	1.6	VOLTS
PLATE CURRENT	12	MA.
GRID #2 CURRENT	1.5	MA.
TRANSCONDUCTANCE	6 200	μMHOS
PLATE RESISTANCE (APPROX.)	6 000	OHMS
LOAD RESISTANCE	2 700	OHMS
MAXIMUM SIGNAL POWER OUTPUT	25	MW.
TOTAL HARMONIC DISTORTION	10	PERCENT
AVERAGE DIODE CURRENT WITH 10V. DC APPLIED, (EA. DIODE)	1.3	MA.

[B] 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.

[C] AVERAGE CONTACT POTENTIAL BIAS DEVELOPED ACROSS SPECIFIED GRID RESISTOR.