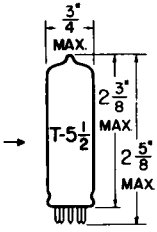
TUNG-SOL

DOUBLE DIODE-TETRODE

MINIATURE TYPE

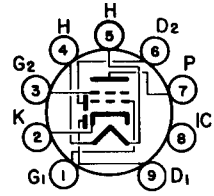


GLASS BULB
MINIATURE BUTTON
9 PIN BASE B9-1
OUTLINE DRAWING
JEDEC 6-3

COATED UNIPOTENTIAL CATHODE

HEATER
12.6 VOLTS 0.50 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM
JEDEC 9WZ

THE 12DK7 IS A COMBINED DETECTOR, AVC DIODE, AND A TETRODE WITH A COMMON UNIPOTENTIAL CATHODE IN THE 9-PIN MINIATURE CONSTRUCTION. THE TETRODE SECTION IS INTENDED FOR USE AS A POWER AMPLIFIER WHERE THE HEATER, PLATE, AND SCREEN GRID POTENTIALS ARE OBTAINED DIRECTLY FROM AN AUTOMOTIVE BATTERY.

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	12.6	VOLTS
MAXIMUM PLATE VOLTAGE (TETRODE)	30	VOLTS
MAXIMUM GRID #2 VOLTAGE	30	VOLTS
MAXIMUM PLATE DISSIPATION	0.5	WATTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE	15	MEGOHMS
MAXIMUM HEATER CATHODE VOLTAGE	±30	VOLTS
MAXIMUM TETRODE PLATE CURRENT→	10	MA.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CHARACTERISTICS – CLASS A_1 AMPLIFIER

HEATER VOLTAGE	12.6	VOLTS
HEATER CURRENT	0.50	AMP.
PLATE VOLTAGE (TETRODE)	12.6	VOLTS
GRID #2 VOLTAGE	12.6	VOLTS
HEATER VOLTAGE	12.6	VOLTS
GRID #1 RESISTOR (BYPASSED)	2.2	MEGOHMS
PLATE CURRENT	6.0	MA.
GRID #2 CURRENT	1.0	MA.
TRANSCONDUCTANCE	5 000	μMHOS
PLATE RESISTANCE	4 000	OHMS
DIODE CURRENT WITH 10 VOLTS APPLIED	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 FACTER SUCH THAT THE TUBE WILL WITHSTAND THE WIDE VARIATION IN SUPPLY VOLTAGES.

→ INDICATES A CHANGE.

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS - CONT'D.

TYPICAL OPERATION - CLASS A_1 AMPLIFIER

HEATER VOLTAGE	12.6	VOLTS
HEATER CURRENT	0.50	AMP.
PLATE VOLTAGE (TETRODE)	12.6	VOLTS
GRID #2 VOLTAGE	12.6	VOLTS
GRID #1 VOLTAGE[A]	---	
GRID #1 SIGNAL VOLTAGE	1.0	VRMS
SIGNAL SOURCE RESISTANCE	200 000	OHMS
LOAD RESISTANCE	3 500	OHMS
SIGNAL PLATE CURRENT (MAX.)	2.5	MA.
SIGNAL GRID #2 CURRENT POWER OUTPUT (MAX.)	10	MW.
TOTAL HARMONIC DISTORTION	10	PERCENT

[A] OBTAINED BY GRID #1 RECTIFICATION WITH A 15 MEGOHM GRID RESISTOR. THE ZERO SIGNAL PLATE CURRENT IS APPROX. 6.0 MA.