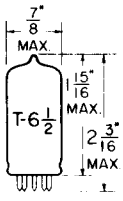
TUNG-SOL

TRIODE PENTODE

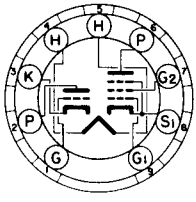
MINIATURE TYPE



GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER
12.6 VOLTS .225 AMP.
AC OR DC



BOTTOM VIEW
MINIATURE BUTTON
9 PIN BASE

9FA

THE 12EC8 IS A MEDIUM-MU TRIODE AND SHARP CUTOFF PENTODE IN THE 9-PIN MINIATURE CONSTRUCTION. IT IS INTENDED FOR USE AS A COMBINED VHF OSCILLATOR AND MIXER IN APPLICATIONS WHERE THE HEATER, GRID #2 AND PLATE POTENTIALS ARE SUPPLIED DIRECTLY FROM A 12 VOLT AUTOMOTIVE STORAGE BATTERY.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

TRIODE SECTION:		
GRID TO PLATE	1.7	μμf
INPUT: TG TO (H + K)	2.6	μμf
OUTPUT: P TO (H + K)	0.4	μμf
HEATER TO CATHODE	2.6	μμf
PENTODE SECTION:		
GRID #1 TO PLATE (MAX.)	0.02	μμf
INPUT: G_1 TO (H+K+G_2+G_3+I.S.)	4.6	μμf
OUTPUT: P TO (H+K+G_2+G_3+I.S.)	2.6	μμf
HEATER TO CATHODE	2.6	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM [B]

	TRIODE SECTION	PENTODE SECTION	
HEATER VOLTAGE [A]	12.6	12.6	VOLTS
MAXIMUM PLATE VOLTAGE	16	16	VOLTS
MAXIMUM GRID #2 VOLTAGE		16	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.0	1.0	MEGOHM
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE	16		VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	16		VOLTS

[A] 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.

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HEATER VOLTAGE	12.6	12.6	VOLTS
HEATER CURRENT	.225	.225	AMP.
PLATE SUPPLY VOLTAGE	12.6	12.6	VOLTS
GRID #2 VOLTAGE		12.6	VOLTS
GRID #1 VOLTAGE	0	0	
GRID #1 RESISTOR	4 700	33 000	OHMS
PLATE CURRENT	2.4	0.66	MA.
GRID #2 CURRENT		0.28	MA.
TRANSCONDUCTANCE	4 700	2 000	μMHOS
AMPLIFICATION FACTOR	25		
PLATE RESISTANCE (APPROX.)	6 000	750 000	OHMS
GRID #1 VOLTAGE FOR I_b = 10 μA (APPROX.)	-2.2	-1.6	VOLTS

[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.