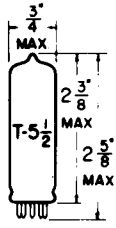
TUNG-SOL

PENTODE

MINIATURE TYPE



GLASS BULB

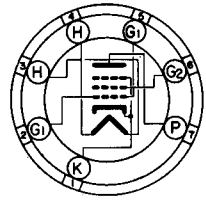
COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS 0.45 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

THE 12ED5 IS A BEAM POWER PENTODE IN THE 7-PIN MINIATURE CONSTRUCTION AND IS DESIGNED FOR SERVICE AS AN AUDIO OUTPUT AMPLIFIER. 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 WHICH ARE SIMILARLY CONTROLLED.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.26	μμf
INPUT: G_1 TO $(H+K+G_2+G_3)$	14	μμf
OUTPUT: P TO $(H+K+G_2+G_3)$	8.5	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM[A]

HEATER VOLTAGE	12.6	VOLTS
MAXIMUM PLATE VOLTAGE	150	VOLTS
MAXIMUM GRID #2 VOLTAGE	150	VOLTS
MAXIMUM PLATE DISSIPATION	6.25	WATTS
MAXIMUM GRID #2 DISSIPATION	1.5	WATTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE:		
FIXED BIAS	0.1	MEGOHM
CATHODE BIAS	0.5	MEGOHM
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
DC	200	VOLTS
TOTAL DC AND PEAK	300	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS
HEATER WARM-UP TIME (APPROX.)*	11.0	SECONDS

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

HEATER VOLTAGE	12.6	12.6	VOLTS
HEATER CURRENT	0.45	0.45	AMP.
PLATE VOLTAGE	110	125	VOLTS
GRID #2 VOLTAGE	110	125	VOLTS
GRID #1 VOLTAGE	-4.0	-4.5	VOLTS
PEAK AF GRID #1 VOLTAGE	4.0	4.5	VOLTS
ZERO-SIGNAL PLATE CURRENT	32	37	MA.
MAXIMUM-SIGNAL PLATE CURRENT	31	36	MA.
ZERO-SIGNAL GRID #2 CURRENT	4.0	7.0	MA.
MAXIMUM-SIGNAL GRID #2 CURRENT	8.0	11	MA.
TRANSCONDUCTANCE	8 100	8 500	μMHOS
PLATE RESISTANCE (APPROX.)	14 000	14 000	OHMS
LOAD RESISTANCE	4 500	4 500	OHMS
MAXIMUM-SIGNAL POWER OUTPUT	1.1	1.5	WATTS
TOTAL HARMONIC DISTORTION (APPROX.)	5	5	PERCENT

* 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.

A 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 WI H RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.