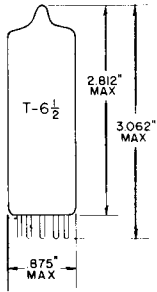


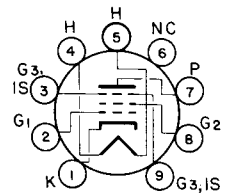
**TUNG-SOL**

**PENTODE**  
MINIATURE TYPE



GLASS BULB  
MINIATURE BUTTON  
9 PIN BASE E9-1  
OUTLINE DRAWING  
JEDEC 6-4

COATED UNIPOTENTIAL CATHODE  
  
AUDIO AMPLIFIER  
FOR  
HEATER SERIES STRING OPERATION  
  
ANY MOUNTING POSITION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 96K

THE 16GK6 IS A POWER PENTODE AUDIO AMPLIFIER IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR SERVICE IN THE OUTPUT STAGE OF HIGH QUALITY AUDIO AMPLIFIERS. EXCEPT FOR HEATER RATINGS, THE 16GK6 IS IDENTICAL TO THE 6GK6.

**DIRECT INTERELECTRODE CAPACITANCES**

GRID TO PLATE: G1 TO P (MAX.)	.14	pf
INPUT: G1 TO ALL	10.0	pf
OUTPUT: P TO ALL	7.0	pf

**HEATER CHARACTERISTICS AND RATINGS**

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	16.0 VOLTS	300	MA.
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		300±20	MA.
MAXIMUM HEATER CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK		100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK		100	VOLTS
HEATER WARM-UP TIME <sup>A</sup>		11	SECONDS

<sup>A</sup> 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.

CONTINUED ON FOLLOWING PAGE

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## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

PLATE VOLTAGE	330 <sup>B</sup>	VOLTS
PLATE SUPPLY VOLTAGE	605	VOLTS
GRID #2 VOLTAGE	330	VOLTS
GRID #2 SUPPLY VOLTAGE	605	VOLTS
NEGATIVE GRID #1 VOLTAGE	100	VOLTS
PLATE DISSIPATION	13.2 <sup>B</sup>	WATTS
GRID #2 DISSIPATION (AVERAGE)	2	WATTS
GRID #2 DISSIPATION, PEAK	4	WATTS
CATHODE CURRENT (AVERAGE)	65	MA.
GRID #1 VOLTAGE FOR GRID CURRENT STARTING POINT WITH $I_{C1} = 0.3 \mu\text{A}$ .	-1.3	VOLTS
GRID CIRCUIT RESISTANCE:		
FIXED BIAS	0.3	MEGOHM
SELF BIAS	1.0	MEGOHM

## TYPICAL OPERATING CHARACTERISTICS

## CLASS A AMPLIFIER

PLATE VOLTAGE	250	VOLTS
GRID #2 (SCREEN) VOLTAGE	250	VOLTS
GRID #1 (CONTROL-GRID) VOLTAGE	-7.3	VOLTS
CATHODE BIAS RESISTOR	135	OHMS
PLATE RESISTANCE (APPROX.)	38000	OHMS
TRANSCONDUCTANCE	11300	$\mu\text{MHOS}$
PLATE CURRENT ZERO SIGNAL	48	MA.
GRID #2 CURRENT, ZERO SIGNAL	5.5	MA.
LOAD RESISTANCE	5200	OHMS
TOTAL HARMONIC DISTORTION (APPROX.)	10	PERCENT
POWER OUTPUT, MAXIMUM SIGNAL	5.7	WATTS
AMPLIFICATION FACTOR OF GRID #2 WITH RESPECT TO GRID #1 ZERO SIGNAL	19	

## PUSH PULL AMPLIFIER - VALUES FOR TWO TUBES

	CLASS AB		CLASS B		
PLATE VOLTAGE	250	300	250	300	VOLTS
GRID #2 (SCREEN) VOLTAGE	250	300	250	300	VOLTS
GRID #1 (CONTROL-GRID) VOLTAGE	---	---	-11.6	-14.7	VOLTS
CATHODE BIAS RESISTOR	130	130	---	---	OHMS
GRID TO GRID INPUT VOLTAGE					
PEAK A-F	22.4	28	22.4	28	VOLTS
PLATE CURRENT, ZERO SIGNAL	62	72	20	15	MA.
PLATE CURRENT, MAXIMUM SIGNAL	75	92	75	92	MA.
GRID #2 CURRENT, ZERO SIGNAL	7	8	2.2	1.6	MA.
GRID #2 CURRENT, MAXIMUM SIGNAL	15	22	15	22	MA.
LOAD RESISTANCE, PLATE-TO-PLATE	8000	8000	8000	8000	OHMS
TOTAL HARMONIC DISTORTION (APPROX.)	3	4	3	4	PERCENT
POWER OUTPUT, MAXIMUM SIGNAL	11	17	11	17	WATTS

B

WHEN THE HEATER AND POSITIVE VOLTAGE ARE OBTAINED FROM A STORAGE BATTERY BY MEANS OF A VIBRATOR THE MAXIMUM VALUES OF THE PLATE AND GRID 2 VOLTAGES ARE 275 VOLTS AND THE PLATE DISSIPATION IS 9.9 WATTS.