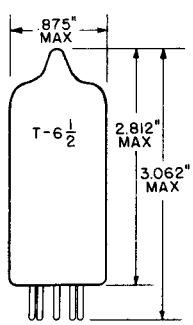


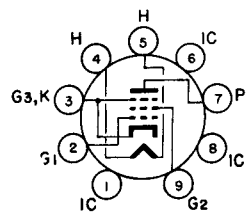
**TUNG-SOL**

**PENTODE**  
MINIATURE TYPE



GLASS BULB  
OUTLINE DRAWING  
JEDEC 6-4

COATED UNIPOTENTIAL CATHODE  
HEATER  
6.3 VOLTS 760 MA.  
ANY MOUNTING POSITION



BOTTOM VIEW  
BASING DIAGRAM  
JEDEC 9CV

THE 7189 IS A POWER PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE AS A POWER AMPLIFIER IN HIGH FIDELITY AUDIO EQUIPMENT, INTENDED FOR USE IN AMPLIFIERS OF OVER 20 WATT CAPABILITIES.

**DIRECT INTERELECTRODE CAPACITANCES**

INPUT CAPACITANCE	10.8	pf
OUTPUT CAPACITANCE	6.5	pf
PLATE TO GRID #1	0.5	pf
GRID #1 TO HEATER	0.25	pf

**RATINGS**

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM  
CLASS AB<sub>1</sub> FIXED BIAS AUDIO AMPLIFIER  
PENTODE CONNECTION

MAXIMUM PLATE VOLTAGE	400	VOLTS
MAXIMUM PLATE DISSIPATION	12	WATTS
MAXIMUM GRID #2 VOLTAGE	300	VOLTS
MAXIMUM GRID #2 DISSIPATION (ZERO SIGNAL)	2.0	WATTS
MAXIMUM GRID #2 DISSIPATION (MAX. SIGNAL)	4.0	WATTS
MAXIMUM CATHODE CURRENT	65	MA.
MAXIMUM GRID RESISTANCE (FIXED BIAS)	300 000	OHMS
MAXIMUM HEATER TO CATHODE VOLTAGE	100	VOLTS

**TYPICAL CHARACTERISTICS**

PLATE VOLTAGE	250	VOLTS
GRID #2 VOLTAGE	250	VOLTS
PLATE CURRENT	48	MA.
GRID #2 CURRENT	5.5	MA.
GRID #1 VOLTAGE	-7.3	VOLTS
TRANSCONDUCTANCE	11 300	μMHOS
PLATE RESISTANCE	40 000	OHMS
AMPLIFICATION FACTOR (GRID #1 TO GRID #2)	19.5	

CONTINUED ON FOLLOWING PAGE

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**TUNG-SOL**

CONTINUED FROM PRECEDING PAGE

**TYPICAL OPERATION**

FIXED BIAS - TWO TUBES - PUSH PULL

PLATE VOLTAGE	400	VOLTS
GRID #2 VOLTAGE	300	VOLTS
GRID #1 VOLTAGE	-15	VOLTS
PLATE TO PLATE LOAD RESISTANCE	8 000	OHMS
PLATE CURRENT (ZERO SIGNAL)	2x7.5	MA.
PLATE CURRENT (MAX. SIGNAL)	2x52.5	MA.
GRID #2 CURRENT (ZERO SIGNAL)	2x0.8	MA.
GRID #2 CURRENT (MAX. SIGNAL)	2x12.5	MA.
INPUT SIGNAL VOLTAGE (RMS)	10.5	VOLTS
POWER OUTPUT	24	WATTS
PERCENT DISTORTION	4.0	PERCENT

**RATINGS**

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

CLASS AB<sub>1</sub> AUDIO AMPLIFIER

ULTRA-LINEAR AMPLIFIER

PLATE AND GRID #2 SUPPLY VOLTAGE	375	VOLTS
PLATE DISSIPATION	12	WATTS
GRID #2 DISSIPATION (ZERO SIGNAL)	2	WATTS
GRID #2 INPUT (MAX SIGNAL)	4	WATTS
CATHODE CURRENT	65	MA.
GRID RESISTANCE (CATHODE BIAS)	1	MEGOHM
HEATER TO CATHODE VOLTAGE	100	VOLTS

**TYPICAL OPERATION**

CATHODE BIAS - TWO TUBES - PUSH PULL

PLATE SUPPLY VOLTAGE	375	VOLTS
GRID #2 SUPPLY VOLTAGE <sup>A</sup>		
COMMON CATHODE RESISTANCE	220	OHMS
PLATE TO PLATE LOAD RESISTANCE	11 000	OHMS
PLATE AND GRID #2 CURRENT (ZERO SIGNAL)	2x55	MA.
PLATE AND GRID #2 CURRENT (MAX. SIGNAL)	2x40.5	MA.
INPUT SIGNAL VOLTAGE, RMS	12.5	VOLTS
POWER OUTPUT	16.5	WATTS
PERCENT DISTORTION	3	PERCENT

<sup>A</sup> SCREEN VOLTAGE IS OBTAINED FROM TAPS LOCATED AT 43% OF THE PLATE WINDING TURNS.

