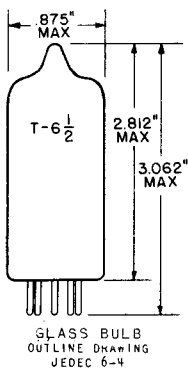


TUNG-SOL

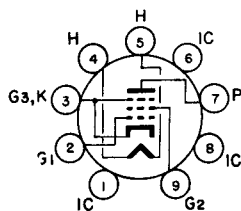
PENTODE
MINIATURE TYPE

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 AB₁ 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

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 AB₁ AUDIO AMPLIFIER

ULTRA-LINEAR AMPLIFIER

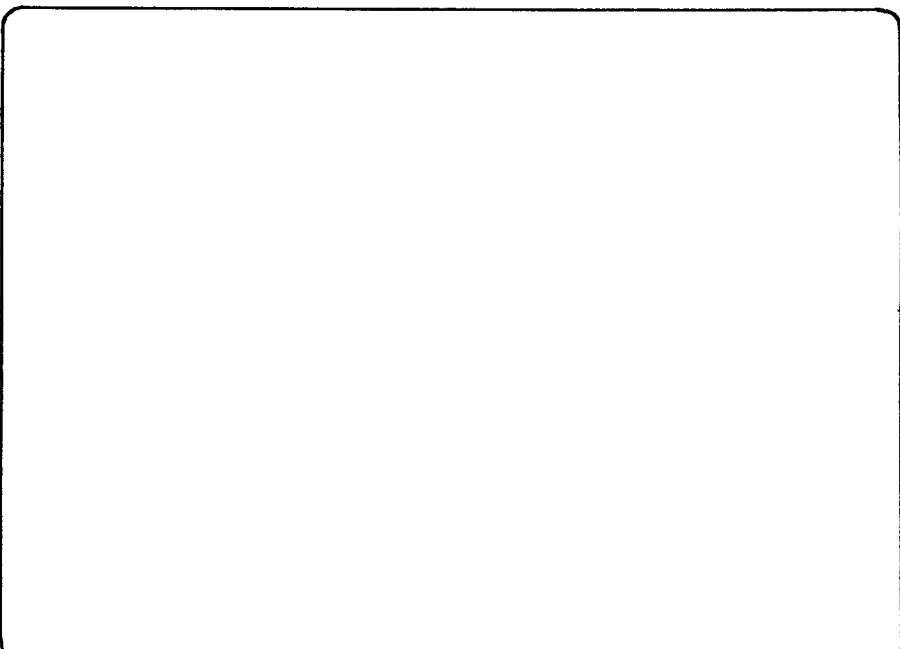
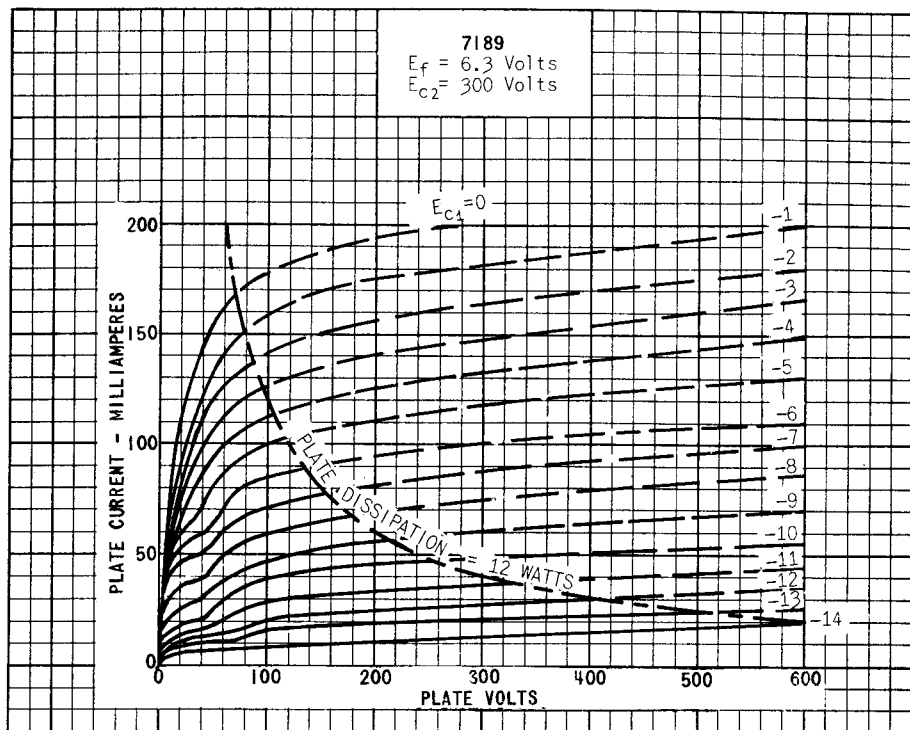
| | | |
|-----------------------------------|-----|--------|
| PLATE AND GRID #2 SUPPLY VOLTAGE | 375 | VOLTS |
| PLATE DISSIPATION | 12 | WATTS |
| GRID #2 DISSIPATION (ZERO SIGNAL) | 2 | WATTS |
| GRID #2 INPUT (MAX SIGNAL) | 4 | WATTS |
| CATHODE CURRENT | 65 | MA. |
| GRID RESISTANCE (CATHODE BIAS) | 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 ^A | | |
| 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 |

^A SCREEN VOLTAGE IS OBTAINED FROM TAPS LOCATED AT 43% OF THE PLATE WINDING TURNS.



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