SYLVANIA ELECTRIC
RMA Registration Data

TYPE 5900

PENTODE

The Type 5900 is a subminiature semi-remote-cutoff rf pentode capable of operation in the uhf region. This type is characterized by long life and stable performance. It is designed for service where severe conditions of mechanical shock and vibration are encountered, and it is suitable for high operating temperatures.

MECHANICAL DATA

GENERAL

Style........................................ subminiature
Cathode..................................... coated, unipotential
Bulb.......................................... T-3
Base........................................... K8-1, (1) Subminiature Button--Flexible Leads
Outline...................................... 3-1
Maximum Bulb Diameter.................. 0.400 inch
Maximum Overall Bulb Length........... 1.375 inches
Minimum Lead Length.................... 1.500 inches
Mounting Position........................ any
Basing...................................... 8DL

Lead Connections:
Lead 1 -- grid #1
Lead 2 -- cathode and grid #3
Lead 3 -- heater
Lead 4 -- cathode and grid #3
Lead 5 -- plate
Lead 6 -- heater
Lead 7 -- grid #2
Lead 8 -- cathode and grid #3

RATINGS(1)

Maximum Impact Acceleration(3)........ 450 G
Maximum Uniform Acceleration(4)........ 1,000 G
Maximum Vibrational Acceleration for Extended Periods(5)....... 2.5 G

ELECTRICAL DATA

GENERAL

Direct Interelectrode Capacitances: (6)
Grid to Plate, maximum.................. 0.015 \mu\text{uf}
Input........................................ 4.40 \mu\text{uf}
Output....................................... 4.00 \mu\text{uf}

Heater Voltage (ac or dc).............. 6.3 volts
Heater Current........................... 150 milliamps

RATINGS(2) -- Absolute System

Heater Voltage (ac or dc)(7)............ 6.3 (±10%) volts
Maximum Plate Voltage (dc).............. 165 volts
Maximum Grid #2 Voltage (dc)............ 155 volts
Maximum Plate Dissipation.............. 1.10 watts
Maximum Grid #2 Dissipation............ 0.55 watts
Maximum Heater-Cathode Voltage........ 1200 volts

(See Page 2 for all notes.)

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TYPE 5900

CHARACTERISTICS

Conditions:
Heater Voltage (ac or dc) ...................... 6.3 volts
Plate Voltage (dc) ................................ 100 volts
Grid #2 Voltage (dc) ............................. 100 volts
Cathode Resistor ................................ 120 ohms
Plate Current .................................... 7.2 milliamps
Grid #2 Current .................................. 2.2 milliamps
Transconductance ......................... 4,500 micromhos
Plate Resistance ................................. 260,000 ohms

Grid #1 Voltage for
25 μmhos Transconductance ................. -14.0 volts

Noise Output Voltage, maximum(8) ............ 100 millivolts

Life Expectancy, at 180 °C Maximum Bulb
Temperature ...................................... 5,000 hours

Life Expectancy, at 250 °C Maximum Bulb
Temperature ...................................... 1,500 hours

(1) With 1.500 inches Minimum Lead Length
as specified above.

(2) Limitations beyond which normal tube per-
formance and tube life may be impaired.

(3) Forces in any direction as applied by the
NRL Impact Machine for Electronic Devices,
or equivalent.

(4) Forces in any direction applied gradually,
as in centrifuge.

(5) Vibrational forces in any direction at 60
cycles per second for a period exceeding
100 hours.

(6) External shield of 0.405 inch diameter con-
nected to cathode.

(7) Tube life and reliability of performance
are directly related to the degree of reg-
ulation of the heater voltage to its cen-
ter-rated value of 6.3 volts.

(8) Across plate resistor of 10,000 ohms, with
applied vibrational acceleration of 15 G.