

March 16, 1950

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 5 .. plate
Lead 2 .. cathode and grid #3	Lead 6 .. heater
Lead 3 .. heater	Lead 7 .. grid #2
Lead 4 .. cathode and grid #3	Lead 8 .. cathode and grid #3

RATINGS(2)

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	μmf
Input.....	4.40	μmf
Output.....	4.00	μmf
Heater Voltage (ac or dc).....	6.3	volts
Heater Current.....	150	milliamps

RATINGS(2) -- Absolute System

Heater Voltage (ac or dc) ⁽⁷⁾	6.3 ($\pm 10\%$)	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.....	± 200	volts

(See Page 2 for all notes.)

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 μ mhos Transconductance	-14.0	volts
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Noise Output Voltage, maximum ⁽⁸⁾	100	millivolts
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Life Expectancy, at 180 °C Maximum Bulb

Temperature	5,000	hours
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Life Expectancy, at 250 °C Maximum Bulb

Temperature	1,500	hours
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- (1) *With 1.500 inches Minimum Lead Length as specified above.*
- (2) *Limitations beyond which normal tube performance 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 connected to cathode.*
- (7) *Tube life and reliability of performance are directly related to the degree of regulation of the heater voltage to its center-rated value of 6.3 volts.*
- (8) *Across plate resistor of 10,000 ohms, with applied vibrational acceleration of 15 G.*