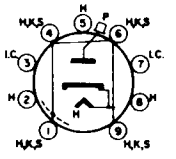
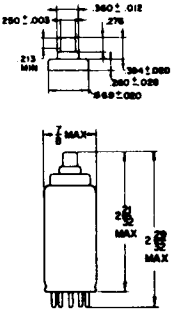
# AMPEREX TUBE TYPE 1S2A

The 1S2A is a half wave vacuum rectifier especially designed for use in high voltage, low current applications in television scanning systems. The envelope of this tube is chemically treated to insure that no flash-over will occur under conditions of high humidity and low atmospheric pressure.




**PIN CONNECTIONS**

1 - HEATER, CATHODE AND SHIELD
2 - HEATER
3 - INTERNALLY CONNECTED
4 - HEATER, CATHODE AND SHIELD
5 - HEATER
6 - HEATER, CATHODE AND SHIELD
7 - INTERNALLY CONNECTED
8 - HEATER
9 - HEATER, CATHODE AND SHIELD




## GENERAL CHARACTERISTICS

### MECHANICAL

| | |
|---|---|
| Dimensions | see outline drawing |
| Plate Cap[1] | see plate cap drawing |
| Base[2] | E 9-1 |

### ELECTRICAL

| | |
|---|---|
| Heater Characteristics | |
| Heater Arrangement | parallel supply |
| Heater Voltage (AC or DC)[3,4] | 1.4 volts |
| Heater Current | 0.55 amps |
| Output Capacitance (without external shield) | 1.55 pf |

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[1] If the tube is operated at high values of peak inverse plate voltage and/or under conditions of high relative humidity or low pressure, an insulating cover should be applied to the plate cap to avoid corona effects.

[2] Pins 1, 4, 6 and 9 can be connected together to form an anti-corona ring.

[3] Circuit elements having the same potential as the heater may be connected to pins 3 and 7.

[4] When the heater is to be operated on RF or flyback pulses, the heater voltage can be adjusted to its nominal value of 1.4 volts at a DC output current of 200 $\mu$a by measurement with a thermocouple. When the DC output is increased to 400 - 600 $\mu$a, the decrease in heater voltage must be kept within a 15% limit.

# 1S2A

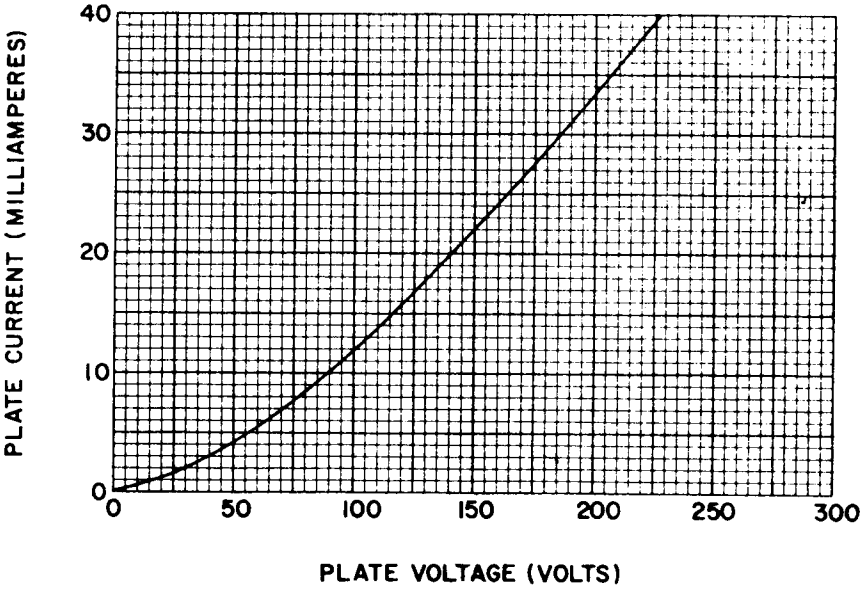
MAXIMUM RATINGS, DESIGN CENTER VALUES

| | |
|---|---|
| Peak Plate Inverse Voltage[5,6] | 22,000 volts |
| Peak Plate Inverse Voltage (Absolute Limits)[6] | 27,000 volts |
| Output Current | 0.8 ma max. |
| Peak Plate Current[7] | 40 ma |
| Filter Input Capacitor | 2,000 pf |

TYPICAL CHARACTERISTICS

| | |
|---|---|
| Output Voltage | 18,000 volts |
| Output Current | 0.15 ma |

## PLATE CHARACTERISTICS




[5] The ratio of the negative peak plate voltage due to ringing in the circuit to the positive DC voltage can be about 1:4.5. This voltage may be 24,000 volts at $I_O = 0$.

[6] Maximum duration is 22% of a line scanning cycle but no more than 18 μsec.

[7] Maximum duration is 10% of a line scanning cycle but no more than 10 μsec.