



# AMPEREX ELECTRONIC CORPORATION

230 DUFFY AVENUE

HICKSVILLE, L. I.

## AMPEREX ELECTRON TUBE 6252/AX-9910

The 6252/AX-9910 is a double tetrode primarily intended for use as class C amplifier at frequencies up to 600 Mc. Each anode is capable of dissipating 10 watts. The cathode is indirectly heated, oxide coated.

### GENERAL

#### ELECTRICAL DATA

##### Heater sections connected in series

	Min.	Nominal	Max.
Heater voltage	11.35	12.6	13.85 volts
Heater current	0.55	0.65	0.75 amp

##### Heater sections connected in parallel

Heater voltage	5.7	6.3	6.9 volts
Heater current	1.1	1.3	1.5 amps

##### Amplification factor

$G_2 - G_1$ Mu at $I_b = 20$ ma	6.5	8.0	9.5
Transconductance at $I_b = 20$ ma		2500	micromhos

#### DIRECT INTERELECTRODE CAPACITANCES

Input (each section)	5.9	6.5	7.1 uuf
Output (each section)	2.1	2.6	3.1 uuf
Input (push-pull)		4.4	uuf
Output (push-pull)		1.6	uuf

#### MECHANICAL DATA

Mounting position	any
Temperature of seals	max. 180 °C

Plate connectors providing a high degree of heat transfer by radiation or by conduction should be used. Generally natural cooling is sufficient with a plate voltage of

600 volts at frequencies up to 150 Mc  
 500 volts at frequencies up to 200 Mc  
 300 volts at frequencies up to 430 Mc

Above these limits or with high ambient temperatures it may be necessary to direct an airflow of about 0.5 cu. ft. per min. on top of the bulb to keep the seal temperature within the stated limit.

Net weight

2 Oz.

## R. F. Power Amplifier and Oscillator-Class C Telegraphy

Key-down conditions per tube without modulation. ②

### MAXIMUM RATINGS, ABSOLUTE VALUES

	CCS
D-C Plate Voltage	600 max. volts
D-C Grid No. 2 Voltage	250 max. volts
D-C Grid No. 1 Voltage	-75 max. volts
D-C Cathode Current	2x55 max. ma
Peak Cathode Current	2x260 max. ma
Grid No. 2 Input	2x1.5 max. watts
Plate dissipation	2x10 watts
Grid No. 1 circuit resistance with fixed bias	50 000 max. ohms
Grid No. 1 circuit resistance with automatic bias.	0.1 max. megohm

### TYPICAL OPERATION

	CCS	CCS	CCS	CCS
Frequency	200	200	200	200 Mc
D-C Plate Voltage	600	400	300	200 volts
D-C Grid No. 2 Voltage	250	250	250	200 volts
D-C Grid No. 1 Voltage	-60	-50	-40	-30 volts
D-C Plate Current	2x50	2x50	2x50	2x50 ma
D-C Grid No. 2 Current	2x4	2x4	2x4.5	2x4 ma
D-C Grid No. 1 Current, approx.	2x0.7	2x0.7	2x0.7	2x1.0 ma
Driving Power ③	1.5	1.0 max.	1.0 max.	1.0 watt
Power Output	48	30	21	13 watts

② Modulation essentially negative may be used if the positive peak of the envelope does not exceed 115 per cent of the carrier conditions.

③ Driving power includes typical grid-circuit loss.

## R. F. Power Amplifier and Oscillator-Class C Telegraphy

### TYPICAL OPERATION (continued)

Frequency	400	400	400	600 Mc
D-C Plate Voltage	400	300	200	400 volts
D-C Grid No. 2 Voltage	250	250	200	250 volts
D-C Grid No. 1 Voltage	-50	-40	-30	-50 volts
D-C Plate Current	2x50	2x50	2x50	2x50 ma
D-C Grid No. 2 Current	2x2.5	2x2.5	2x3	2x2.5 ma
D-C Grid No. 1 Current, approx.	2x0.7	2x0.6	2x0.5	2x0.7 ma
Driving power <sup>(4)</sup>	2	1.5	1	- watt
Power output, approx.	25	17	11	20 watts

### Frequency Tripler - Class C Telegraphy

#### MAXIMUM RATINGS, ABSOLUTE VALUES

#### CCS

D-C Plate Voltage	600 max. volts
D-C Grid No. 2 Voltage	250 max. volts
D-C Grid No. 1 Voltage	-200 max. volts
D-C Cathode Current	2x50 max. ma
Peak Cathode Current	2x275 max. ma
Grid No. 2 Input	2x1.5 max. watts
Grid No. 1 Input	2x0.5 max. watt
Plate dissipation	2x10 max. watts
Grid No. 1 circuit resistance with fixed bias	50 000 max. ohms
Grid No. 1 circuit resistance with automatic bias	0.1 max. megohm

#### TYPICAL OPERATION

#### CCS

#### CCS

Frequency	66.7/200	133/400 Mc
D-C Plate Voltage	300	300 volts
D-C Grid No. 2 Voltage	250	250 volts
D-C Grid No. 1 Voltage	-175	-175 volts
D-C Plate Current	2x45	2x45 ma
D-C Grid No. 2 Current	2x3	2x2.8 ma
D-C Grid No. 1 Current, approx.	2x1.5	2x1.2 ma
Driving Power <sup>(4)</sup>	4	5 watts
Power output	10.0	8.0 watts

<sup>(4)</sup> Driving power includes typical fixed frequency grid-circuit loss.

**Plate and Screen Grid Modulated R. F. Power Amplifier  
Class C telephony**

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Carrier conditions with two systems in push-pull for use with a maximum modulation factor of 1.0

**MAXIMUM RATINGS, ABSOLUTE VALUES**

**CCS**

D-C Plate Voltage	500 max. volts
D-C Grid No. 2 Voltage	250 max. volts
D-C Grid No. 1 Voltage	-100 max. volts
D-C Cathode Current	2x50 max. ma
Peak Cathode Current	2x400 max. ma
Grid No. 2 input	2x1.5 max. watts
Grid No. 1 input	2x0.5 max. watt
Plate dissipation	2x10 max. watts

**TYPICAL OPERATION**

**CCS**

**CCS**

**CCS**

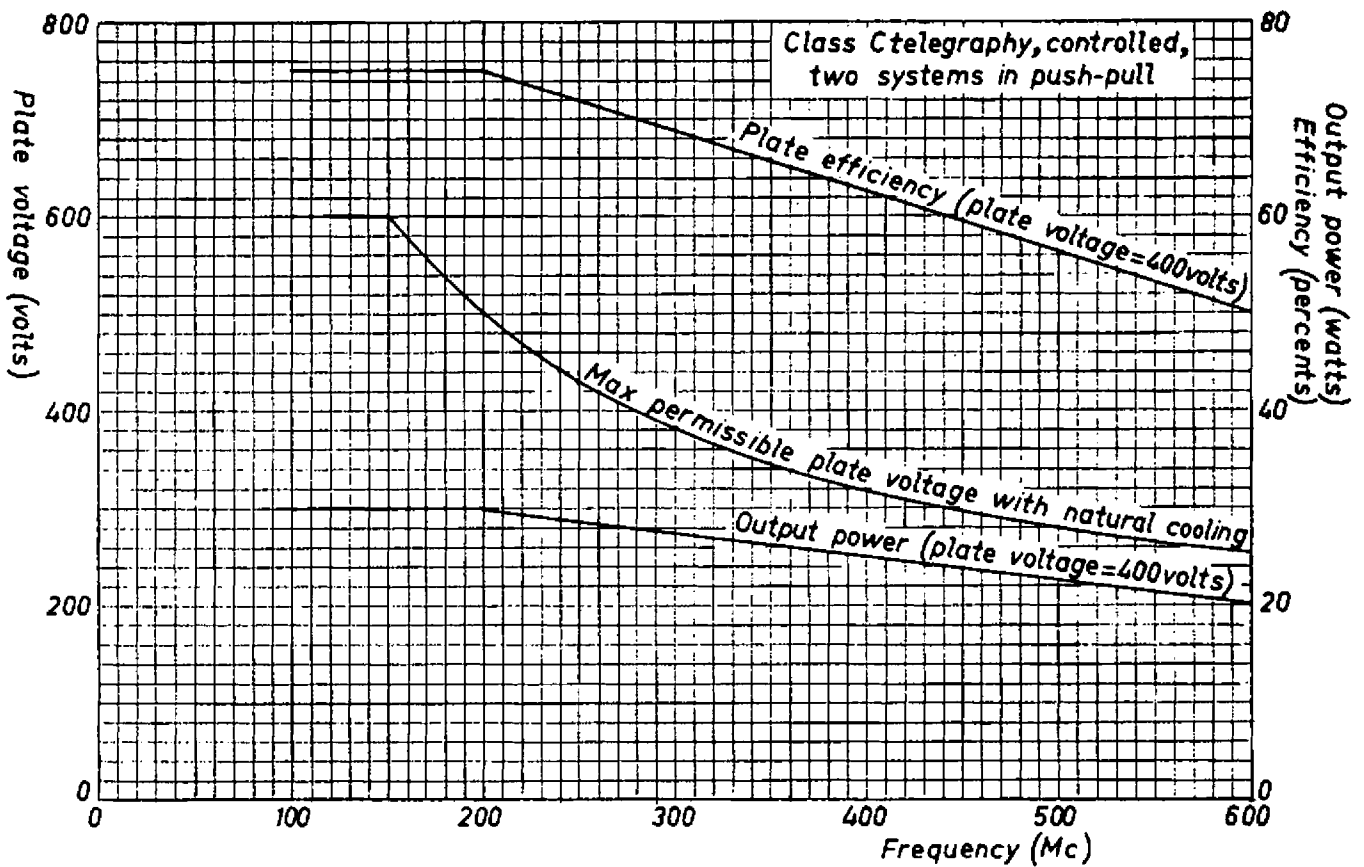
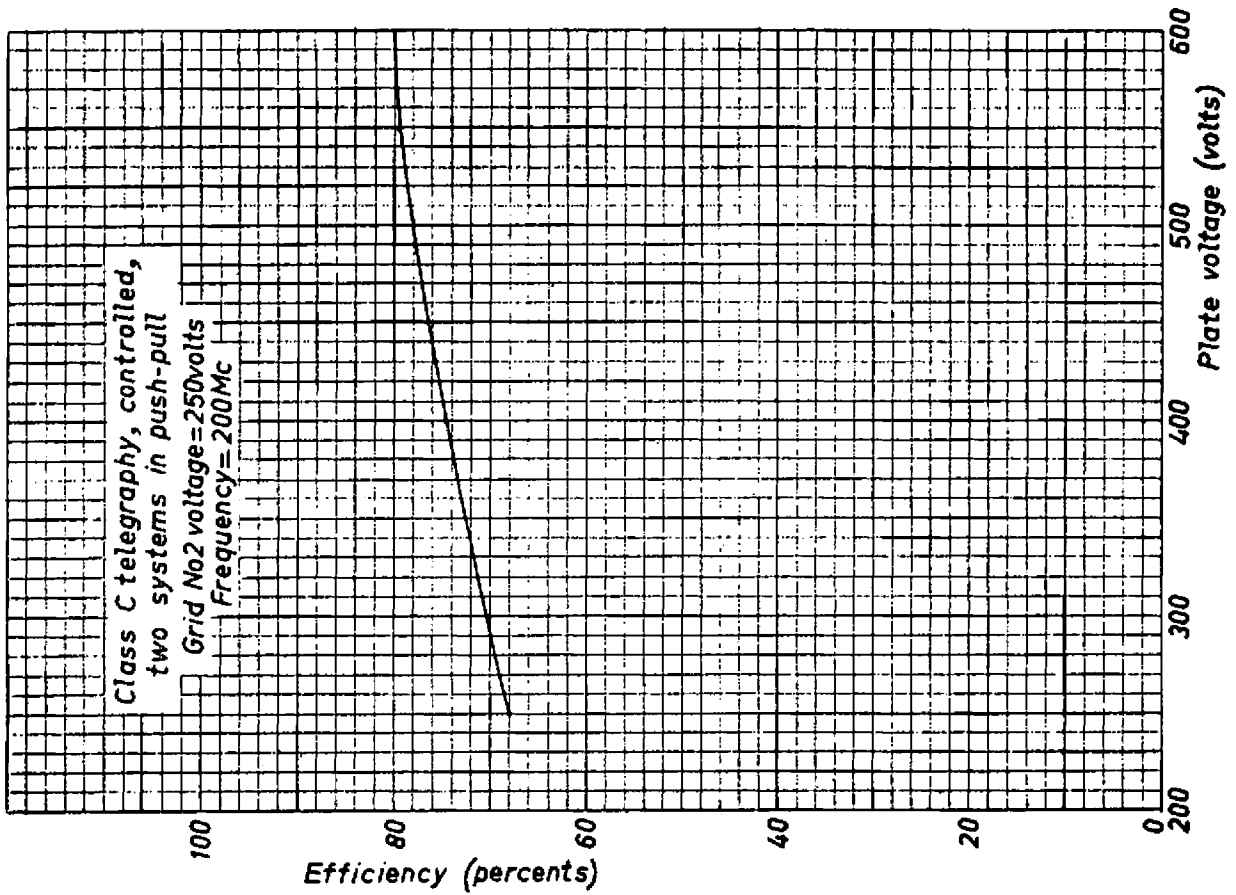
Frequency	200	200	400 Mc
D-C Plate Voltage	500	300	300 volts
D-C Grid No. 2 Voltage	250	250	250 volts
D-C Grid No. 1 Voltage	-80	-50	-50 volts
D-C Plate Current	2x40	2x40	2x40 ma
D-C Grid No. 2 Current	2x4	2x4	2x3 ma
D-C Grid No. 1 Current, approx.	2x1	2x1	2x1 ma
Driving Power ①	3	1.5	- watts
Power Output, approx.	31	17	13 watts

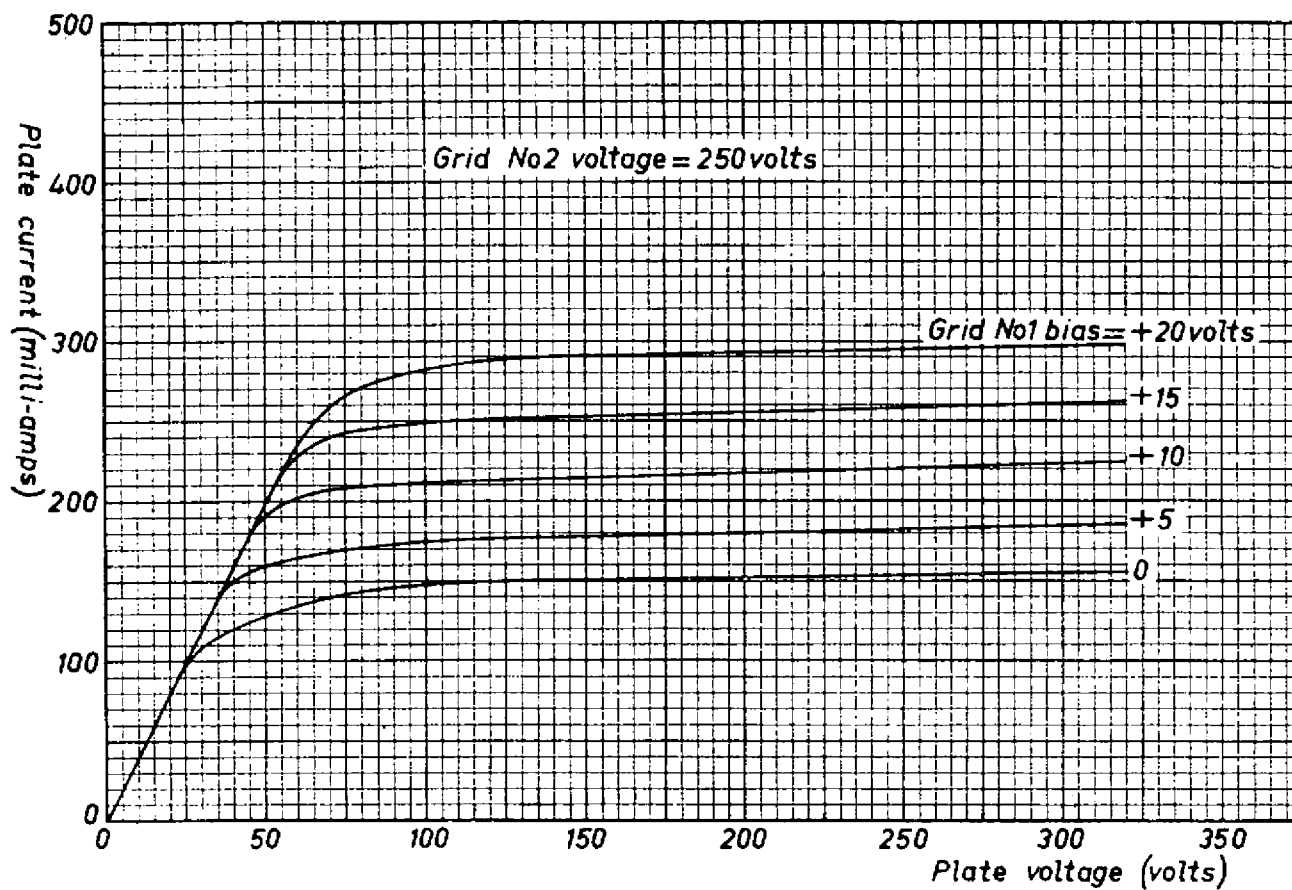
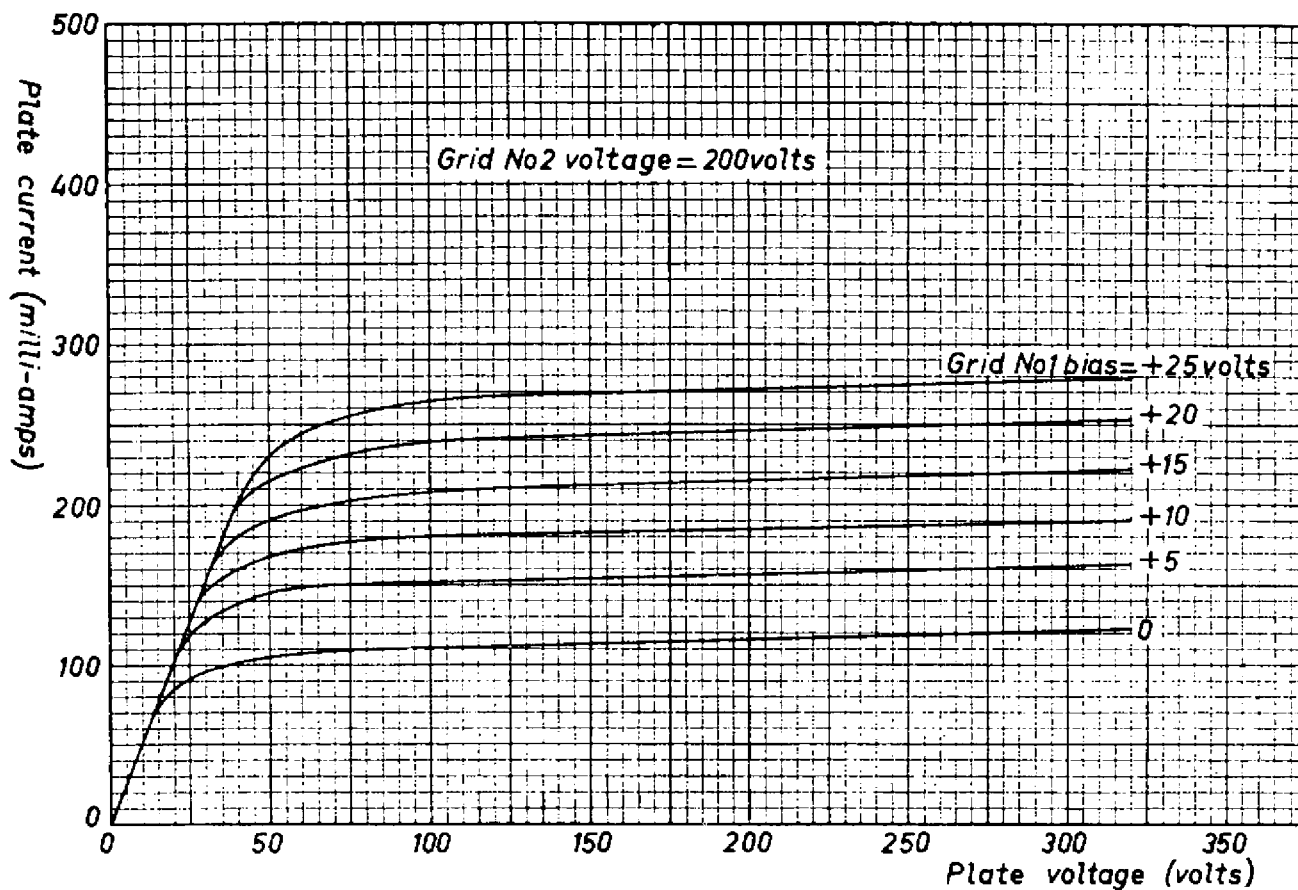
① Driving power includes typical fixed-frequency grid-circuit loss.

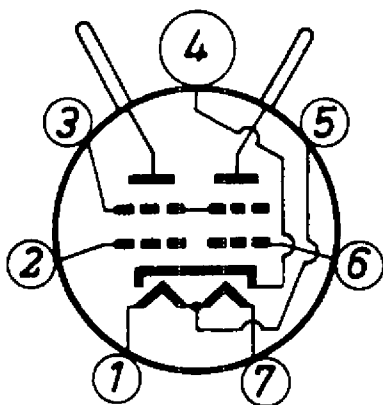
**AMPEREX 6252**

**ELECTRICAL DATA AND LIMITS**

<u>Characteristics</u>	<u>Conditions</u>	<u>Limits</u>	
		<u>Min.</u>	<u>Max.</u>
Plate Current	$E_b = 300 \text{ V}$ $E_{c2} = 250 \text{ V}$ $E_{c1} = -40 \text{ V}$	$I_b$	1.5 ma
Plate Current	$E_b = 300 \text{ V}$ $E_{c2} = 250 \text{ V}$ $E_{c1} = -25 \text{ V}$	$I_b$ 2	26 ma
Plate Current	$E_b = 300 \text{ V}$ $E_{c2} = 250 \text{ V}$ $E_{c1} = -12 \text{ V}$	$I_b$ 40	80 ma
Grid No. 2 Current	$E_b = 300 \text{ V}$ $E_{c2} = 250 \text{ V}$ $E_{c1} = -25 \text{ V}$	$I_{c2}$	3.5 ma
Power Output	$E_b = 600 \text{ V}$ $E_{c2} = 250 \text{ V}$ $E_{c1} = -60 \text{ V}$ $I_b = 100 \text{ mA}$ $f = 150 \text{ Mc}$	$P_o$ 40	watts

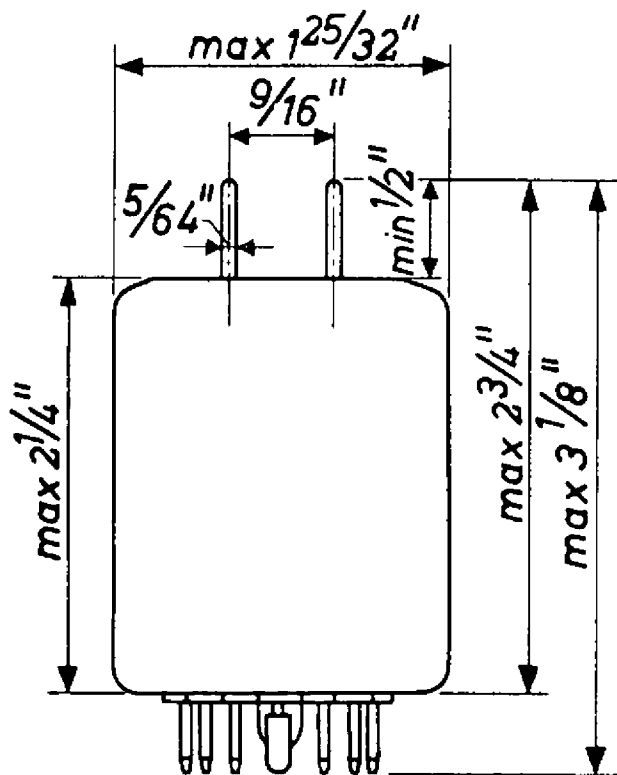




BOTTOM VIEW

- Pin 1 - Heater**  
**Pin 2 - Grid No. 1 triode No. 1**  
**Pin 3 - Grid No. 2, triodes No. 1 and 2.**  
**Pin 4 - Cathode**  
**Pin 5 - Heater mid-tap**  
**Pin 6 - Grid No. 1, triode No. 2**  
**Pin 7 - Heater**

**Top Connections - Plate, triode No. 1**  
**Plate, triode No. 2**

DIMENSIONAL CUTLINE

Septor 7 - pin Base