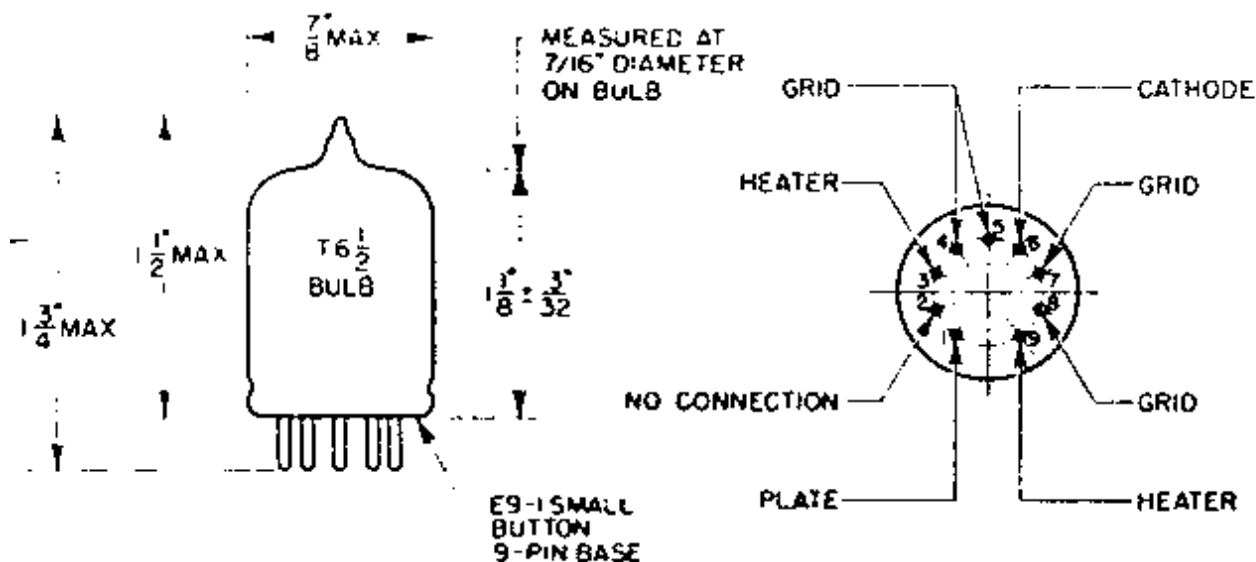


ADVANCE ELECTRON TUBE DATA SHEET  
 WESTERN ELECTRIC ~~417A~~ ELECTRON TUBE



DESCRIPTION

The 642/417A\* is a 9-pin miniature triode of the unipotential cathode type. It is intended primarily for grounded-grid operation in the input stage of broad band amplifiers.

CHARACTERISTICS

Heater Voltage . . . . .	6.3 volts
Maximum Plate Voltage . . . . .	180 volts
Amplification Factor . . . . .	43

GENERAL CHARACTERISTICSELECTRICAL DATA

Heater Voltage . . . . .	6.3 volts
Heater Current . . . . .	300 milliamperes
Direct Interelectrode Capacitances	(without external shield)
Input (cathode to grid and heater) . . . . .	9.0 uuf
Output (plate to grid and heater) . . . . .	1.8 uuf
Plate to Cathode and Heater . . . . .	0.48 uuf

MECHANICAL DATA

Cathode . . . . .	Coated unipotential
Bulb . . . . .	T6-1/2
Base . . . . .	Small button 9-pin
Mounting Position . . . . .	Any

MAXIMUM RATINGS, Design Center Values

Plate Voltage . . . . .	180 volts
Plate Dissipation . . . . .	4 watts
Cathode Current . . . . .	35 milliamperes
Heater-Cathode Voltage . . . . .	50 volts
Bulb Temperature . . . . .	120°centigrade

OPERATING CONDITIONS AND CHARACTERISTICS

Plate Supply Voltage . . . . .	130	150 volts
Grid Voltage * . . . . .	+9	-- volts
Cathode Resistor . . . . .	360	62 ohms
Plate Current . . . . .	27.4	26 milliamperes
Plate Resistance . . . . .	1600	1800 ohms
Transconductance . . . . .	28000	24000 micromhos
Amplification Factor . . . . .	44	43

\* Reference point for "Grid Voltage" is the negative end of the cathode resistor.

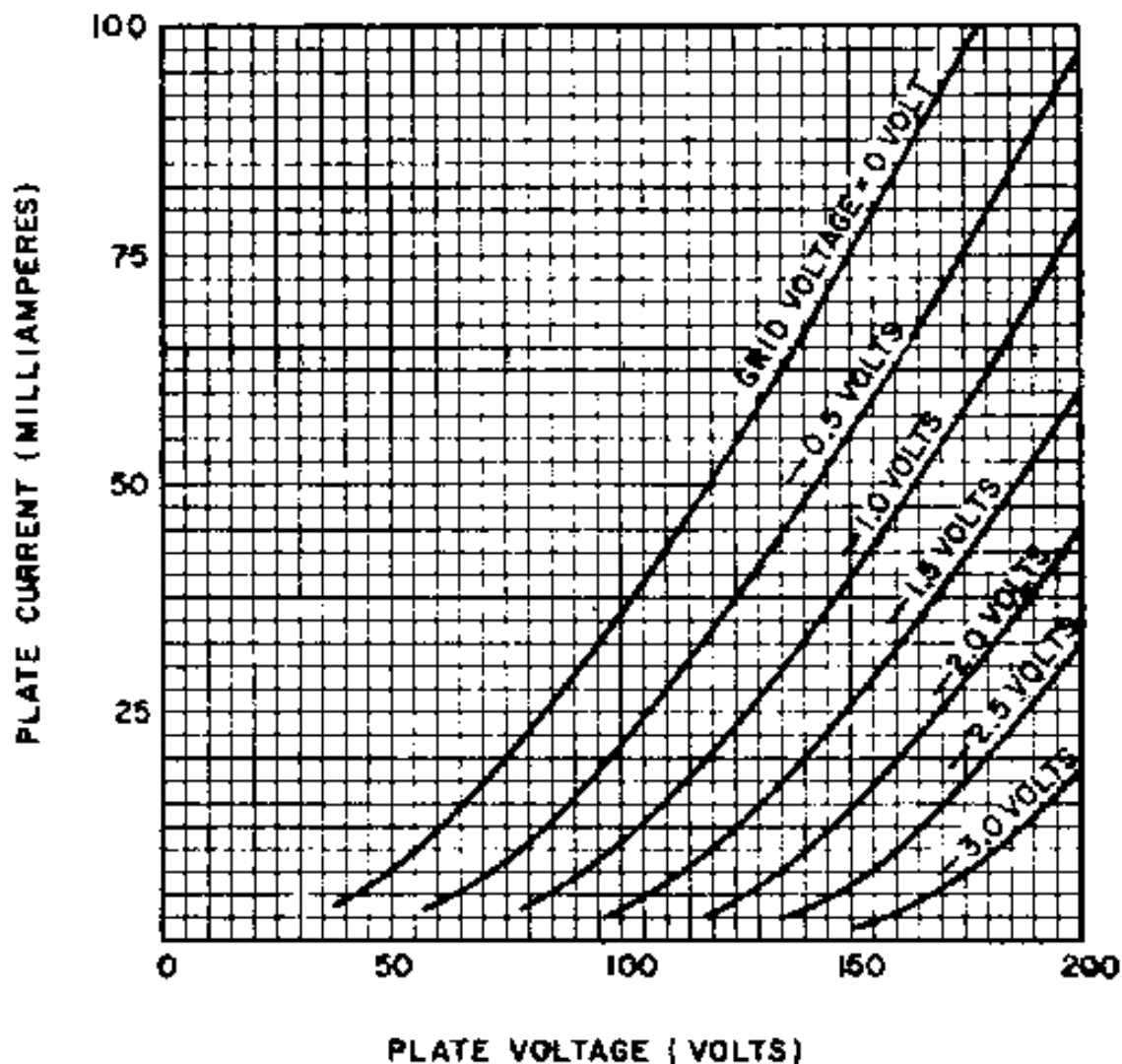
## Maximum Ratings, Absolute Values

Heater voltage (ac or dc)	6.3 ± 10% volts max
Heater to cathode voltage	55 volts max
Plate voltage	200 volts max
Cathode current	38 mA max
Plate dissipation	4.5 watts max
Bulb temperature	160°C max

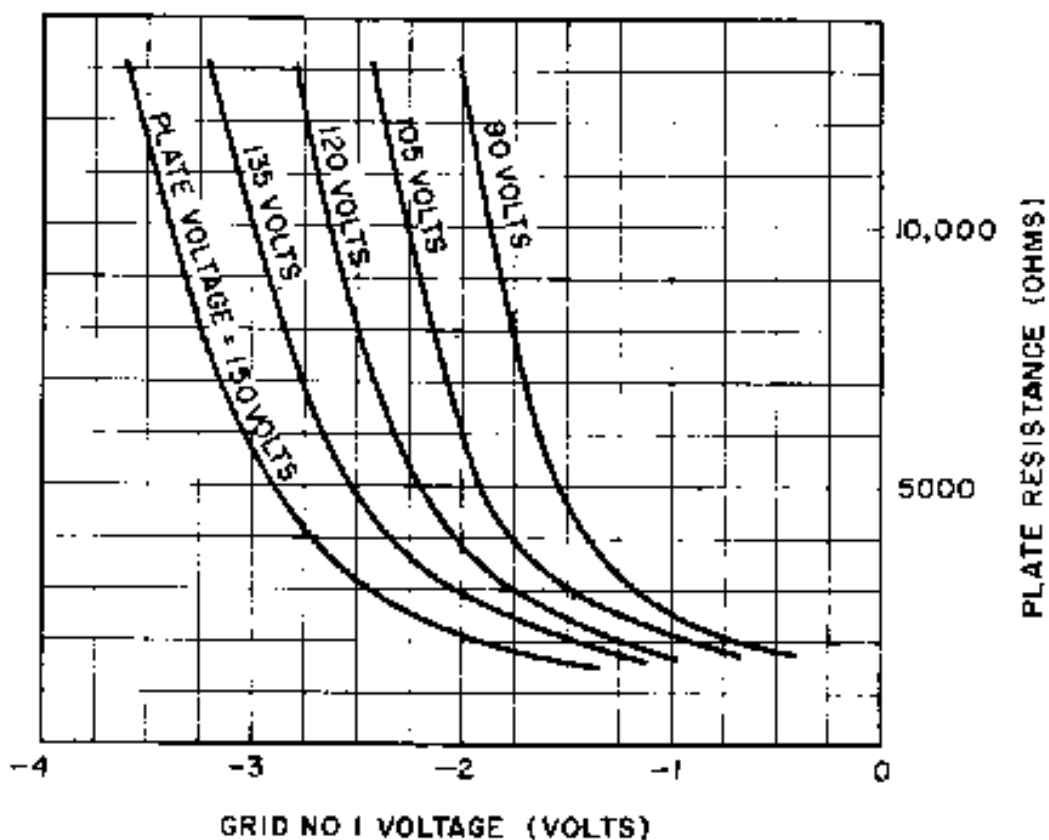
## Typical Operation

Plate voltage	150	130 volts
Grid voltage	0	9 volts
Plate current	25	27 mA
Cathode bias resistance	60	360 ohms
Plate resistance	1700	1600 ohms
Transconductance	25,000	27,000 micromhos
Amplification factor	43	43

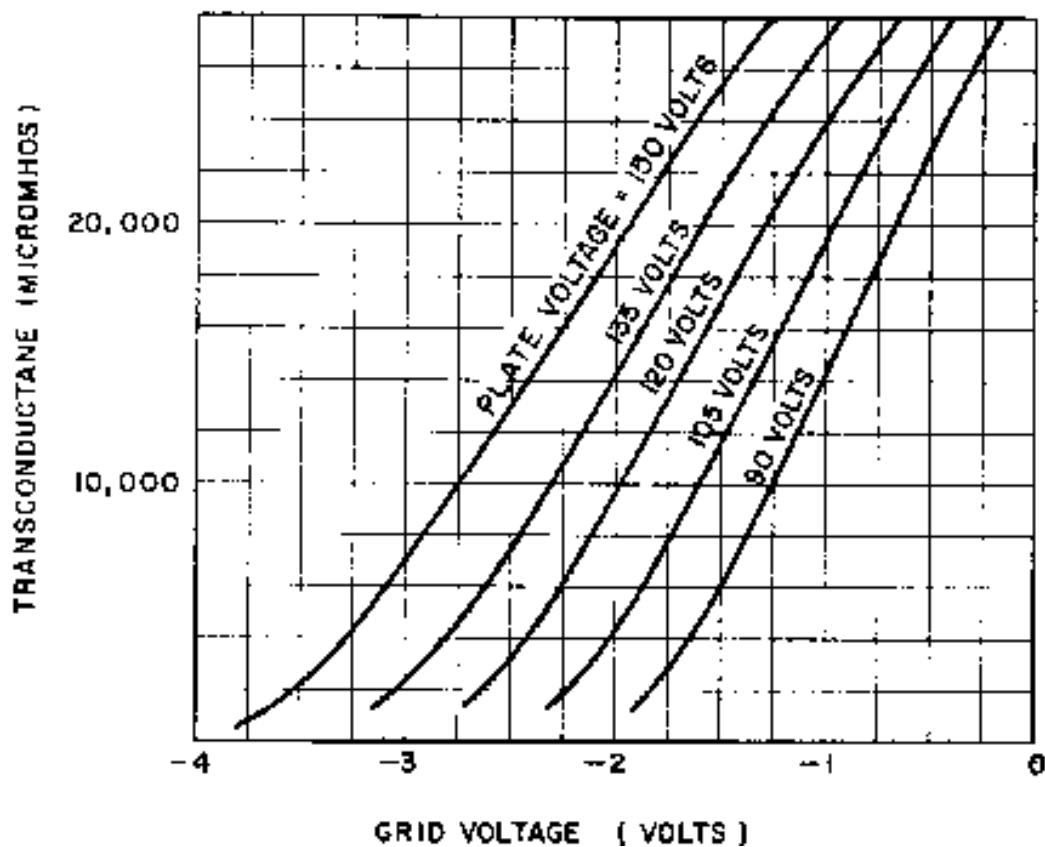
## PLATE CHARACTERISTICS



## PLATE RESISTANCE CHARACTERISTICS

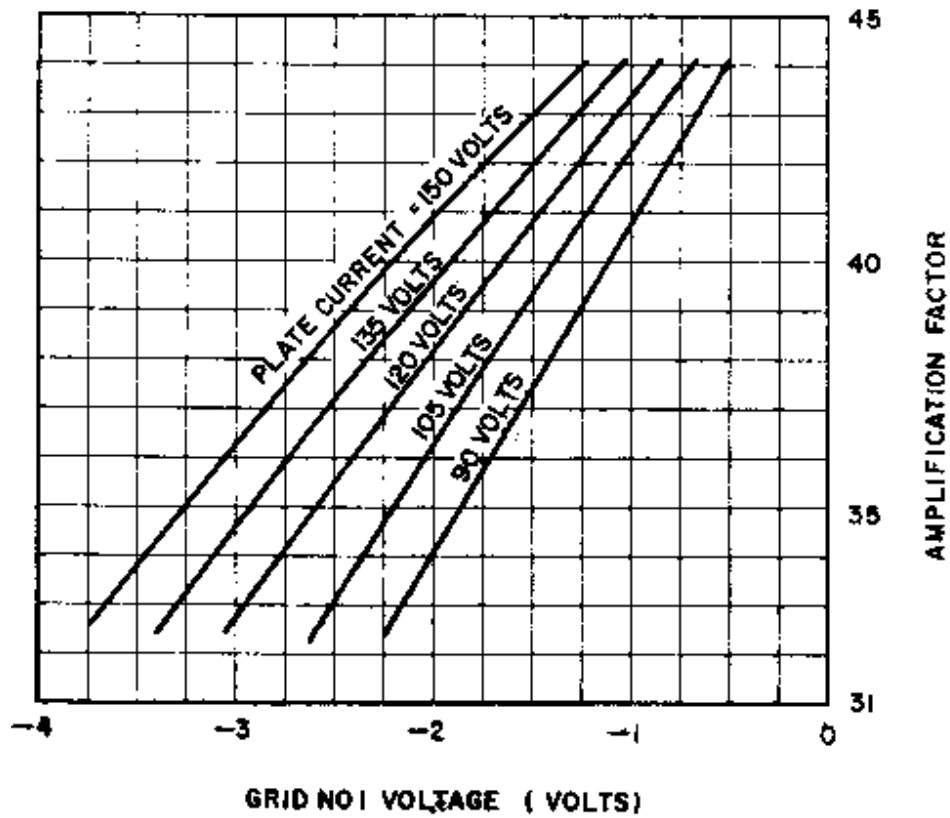


## AVERAGE CHARACTERISTICS



# 5842

## AMPLIFICATION FACTOR CHARACTERISTICS



## TRANSFER CHARACTERISTICS

