

**TRIODE  
AUDIO-FREQUENCY AMPLIFIER**

*Western Electric*

**DESCRIPTION**

The 247A is a low power triode having an indirectly heated cathode. It is designed for use in audio-frequency amplifier, oscillator, and detector circuits.

**CHARACTERISTICS**

Heater Voltage	2.0 volts
Maximum Plate Voltage	180 volts
Amplification Factor	15

**GENERAL CHARACTERISTICS**

**ELECTRICAL DATA**

Heater Voltage, A-C or D-C	2.0 volts
Heater Current	1.6 amperes
Direct Interelectrode Capacitances (without external shield)	
Grid to Plate	3.1 uuf
Input	2.9 uuf
Output	2.2 uuf

**MECHANICAL DATA**

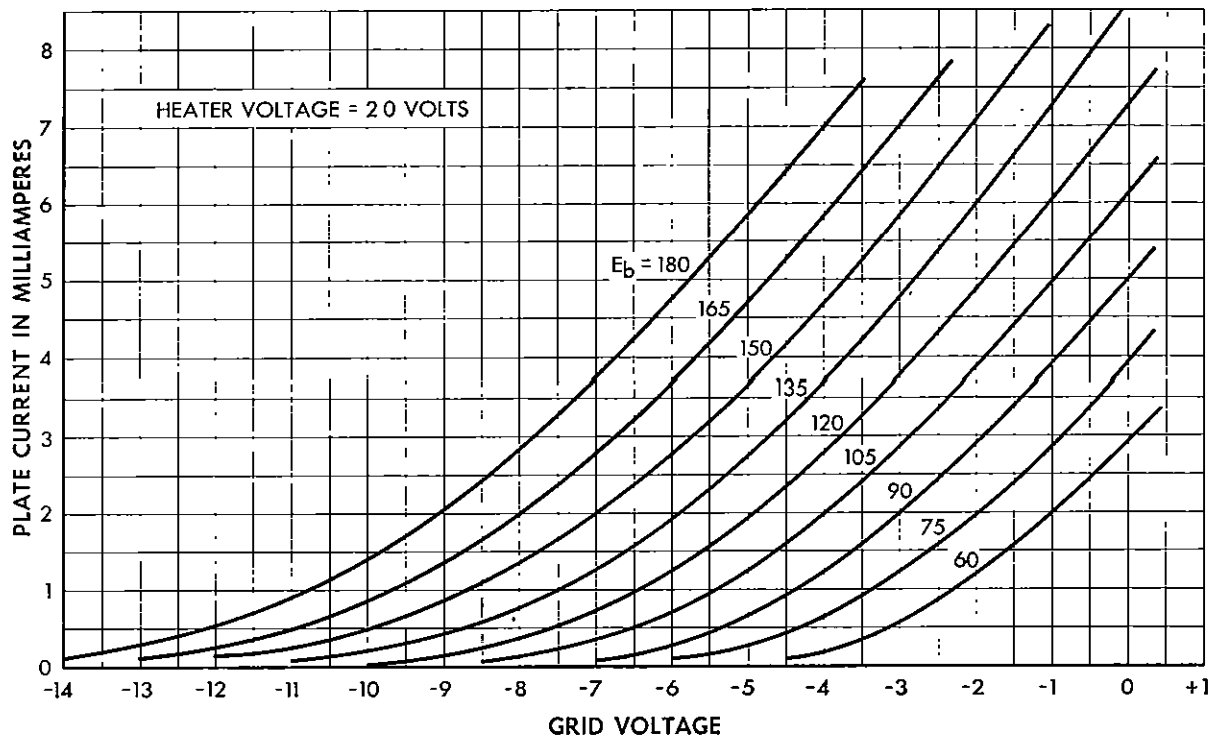
Cathode	Coated Unipotential
Bulb	ST 14
Base	Medium 5-pin
Mounting Position	Any
Dimensions and pin connections shown in outline drawing on Page 4	

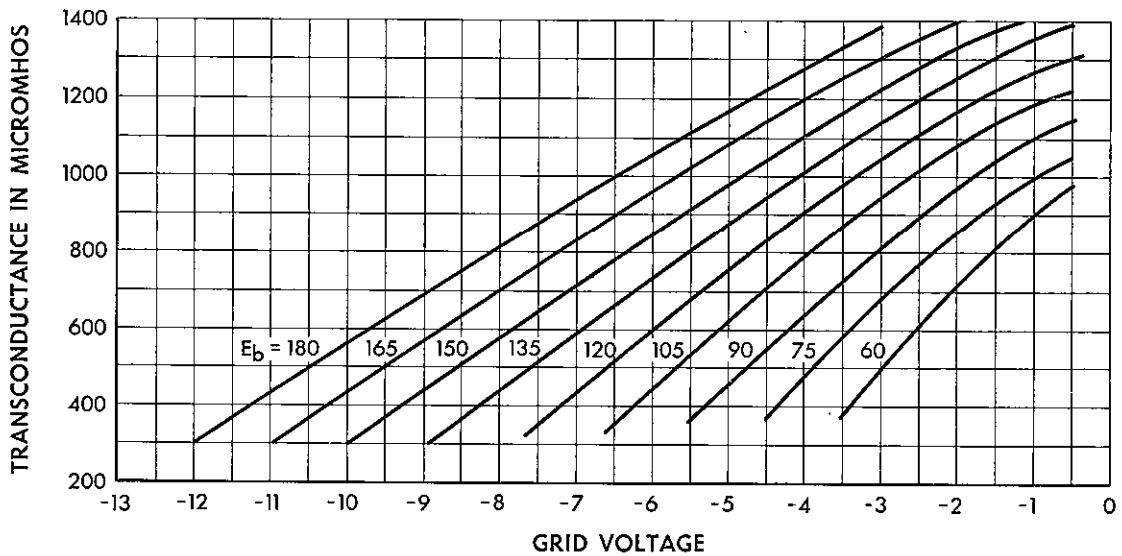
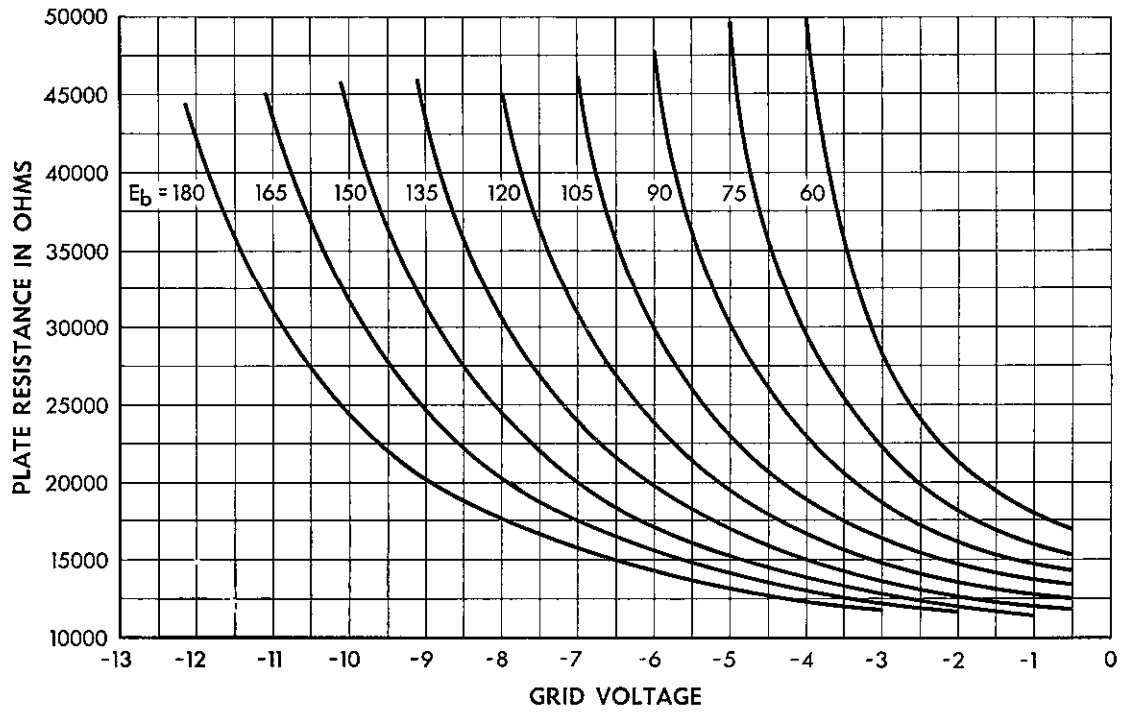
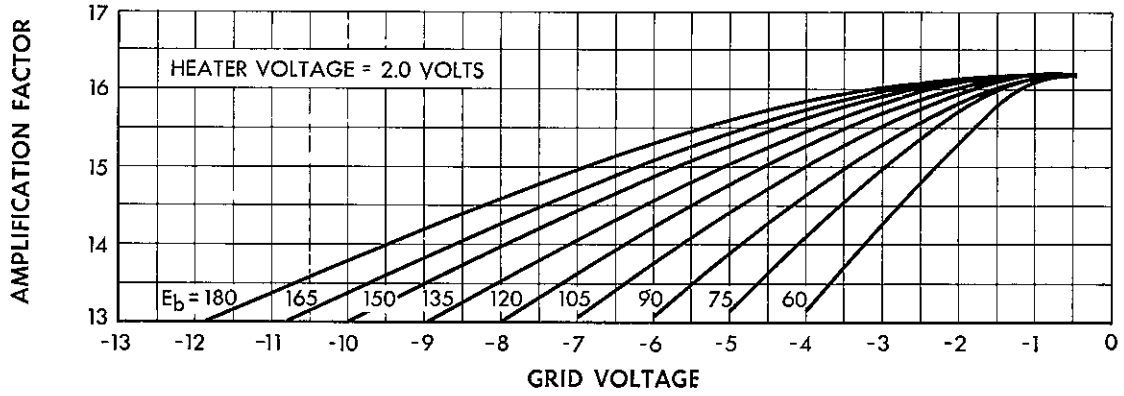
**MAXIMUM RATINGS, Design-Center Values**

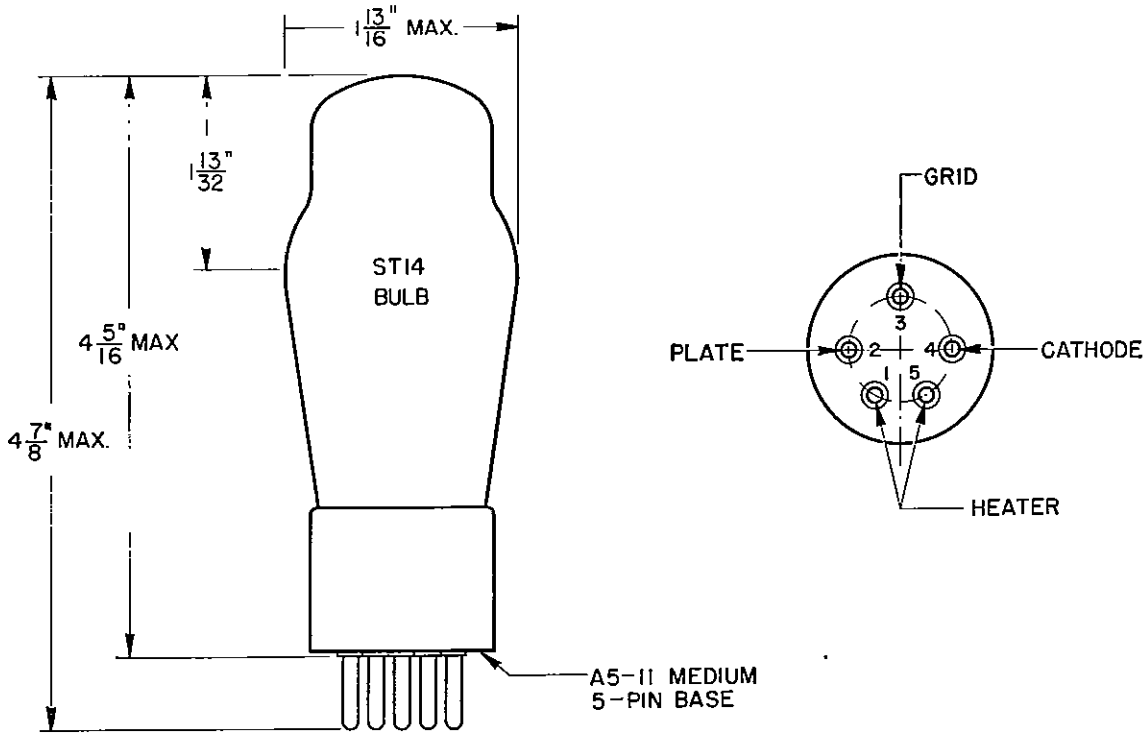
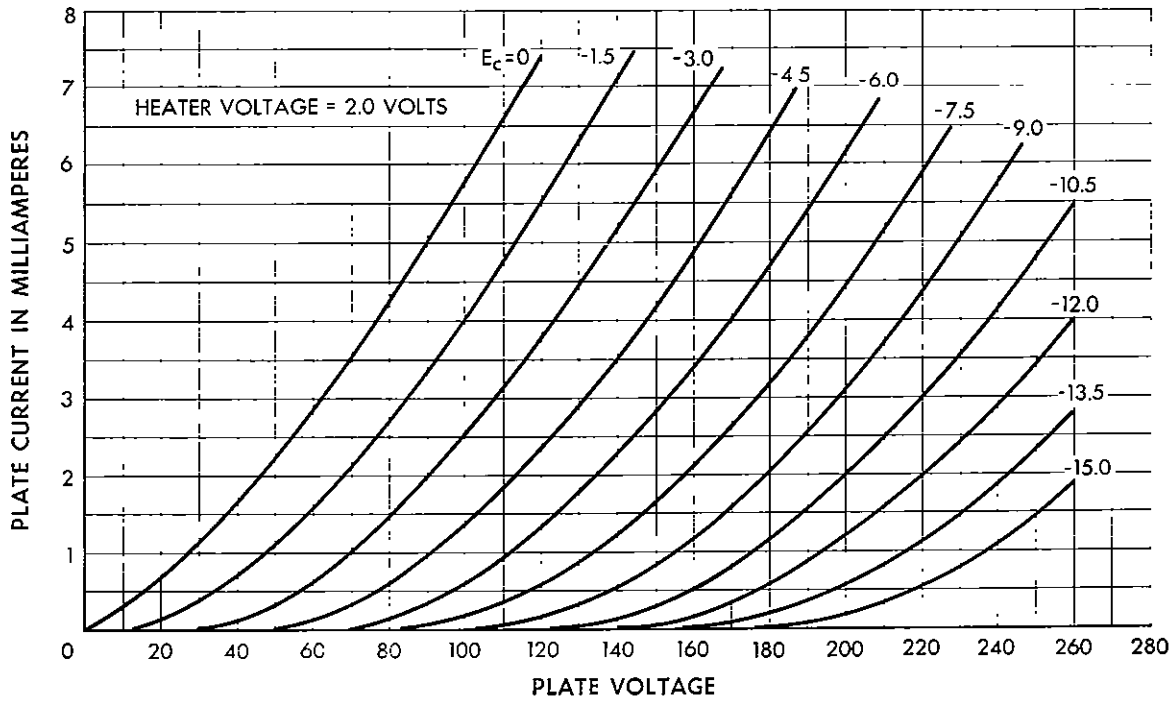
Plate Voltage	180 volts
Plate Dissipation	2.0 watts
Plate Current	10.0 milliamperes
Heater-Cathode Voltage	100 volts

**TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS—CLASS A<sub>1</sub> AMPLIFIER**

Plate Voltage	120	135	150	180 volts
Grid Voltage	-6.0	-4.5	-6	-7 volts
Peak A-F Grid Voltage	6.0	4.5	6	7 volts
Plate Current	1.3	3.2	2.8	3.6 milliamperes
Transconductance	600	940	850	940 micromhos
Amplification Factor	14.2	15.2	14.8	14.9
Plate Resistance	23500	16000	17400	15700 ohms
Load Resistance	120000	80000	87000	78500 ohms
Maximum Signal Power Output	22	21	32	49 milliwatts
Total Harmonic Distortion	4.5	2	2.5	3 percent







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A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company