

ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 310A ELECTRON TUBE



DESCRIPTION

The 310A is an indirectly heated cathode type pentode having a separate suppressor grid connection. It is intended for use in audio, carrier and radio-frequency voltage amplifiers, oscillators or modulators.

CHARACTERISTICS

Heater Voltage	*9.0	10.0 volts
Plate Current . ($E_p = 180$ volts; $E_{c2} = 135$ volts;)	5.1	5.5 milliamperes
Transconductance ($E_{c1} = -3$ volts; $E_{c3} = 0$)	1760	1820 micromhos

*Operation with the heater at 9.0 volts is permissible only when such voltage is regulated to $\pm 1.0\%$ or better.

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Heater Voltage	9.0	10.0 volts
Heater Current	300	320 milliamperes
Direct Interelectrode Capacitances . . .	without	with
	external	external shield
	shield	(RETMA #311)
Grid to Plate (maximum)	0.016	*0.010 μ f
Input: g1 to (h+k+g2+g3+i.s.) . . .	6.0	*7.0 μ f
Output: p to (h+k+g2+g3+i.s.) . . .	13	*13 μ f

MECHANICAL DATA

Cathode	Coated unipotential
Bulb	ST12
Base	Small 6-pin
Mounting Position	Any
Dimensions and pin connections shown in outline drawings on page 5	

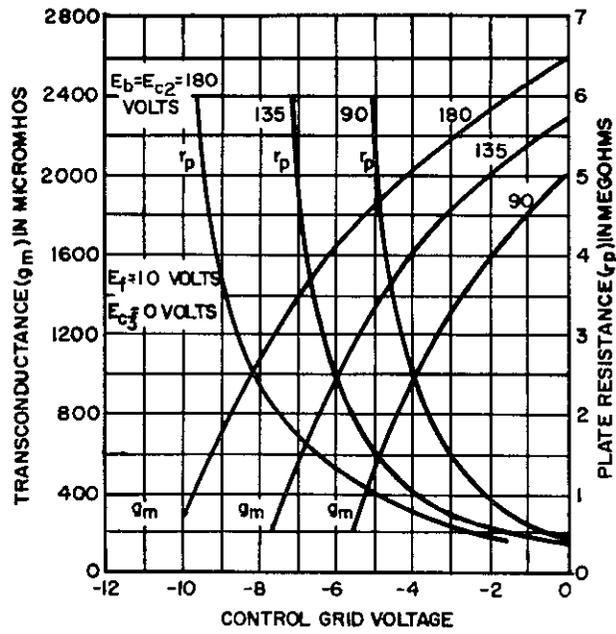
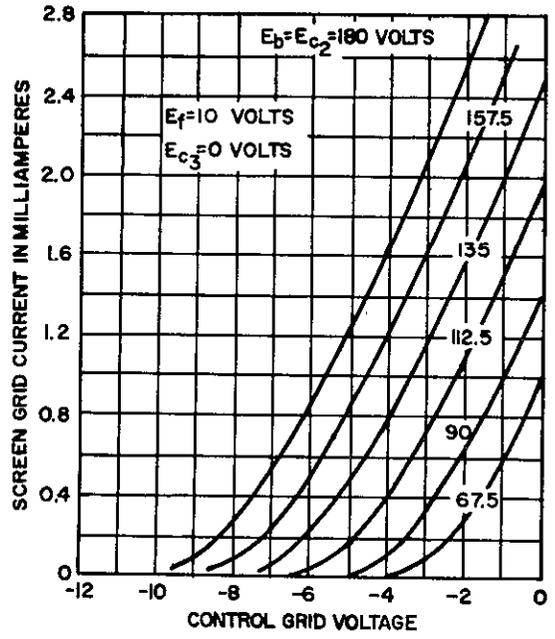
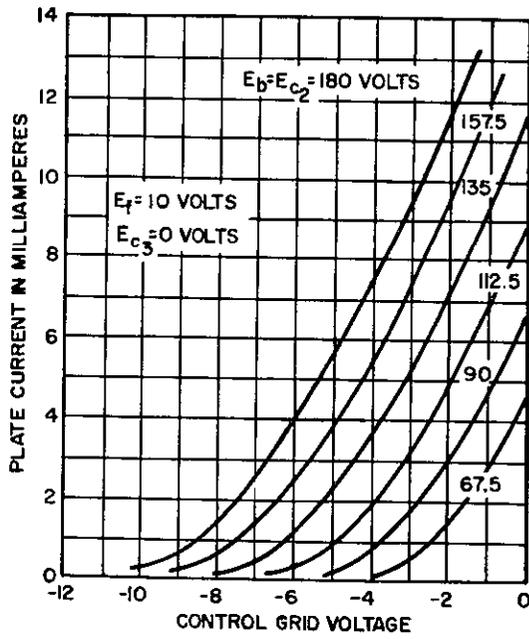
MAXIMUM RATINGS, Design-Center Values

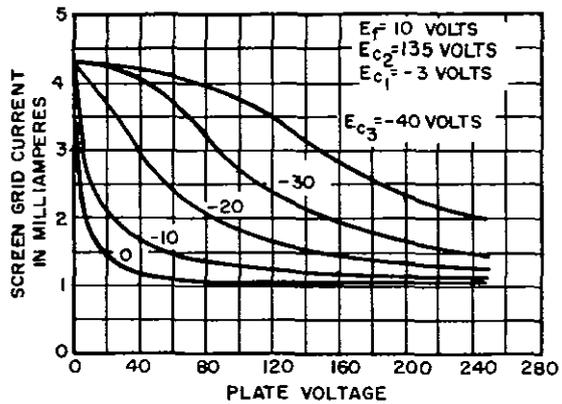
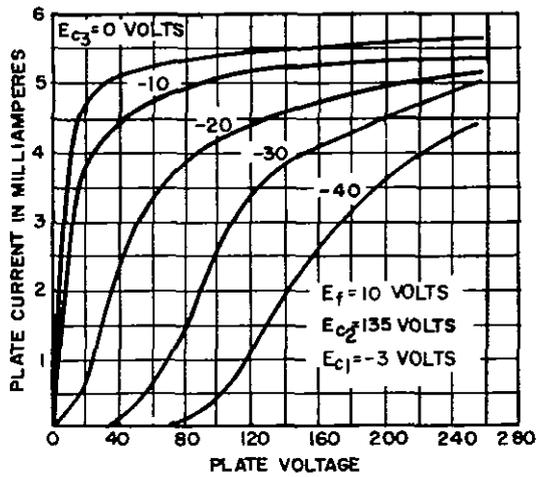
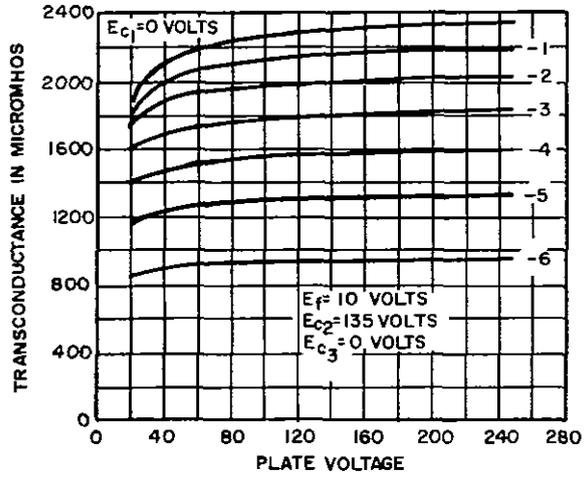
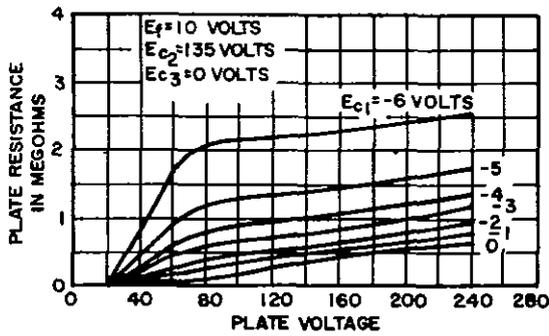
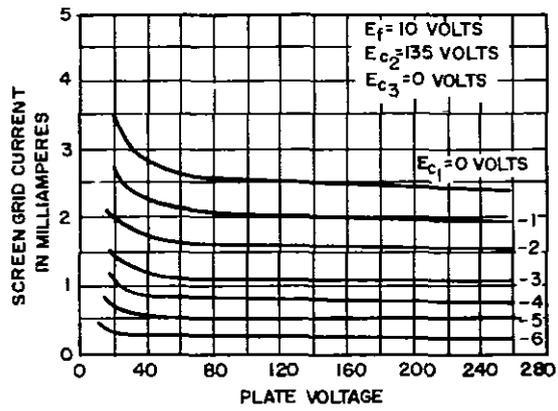
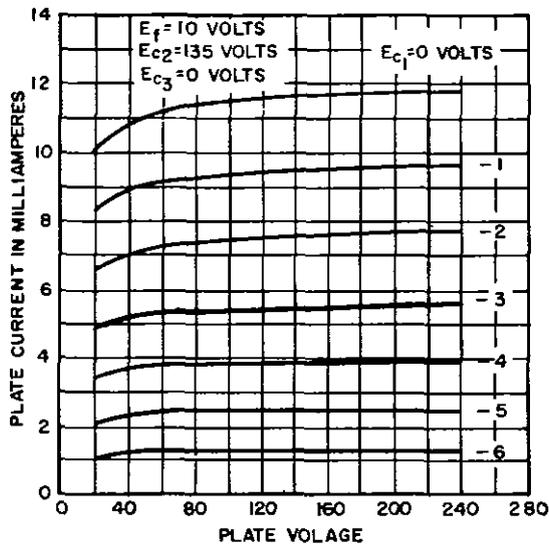
Plate Voltage	250 volts
Screen Grid Voltage	180 volts
Plate Dissipation	2.0 watts
Screen Grid Dissipation	0.4 watt
Cathode Current	10 milliamperes
Heater-Cathode Voltage	150 volts

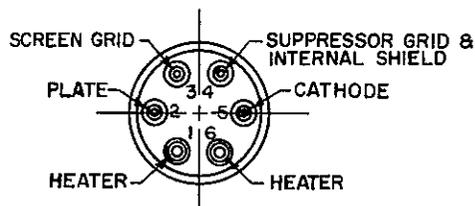
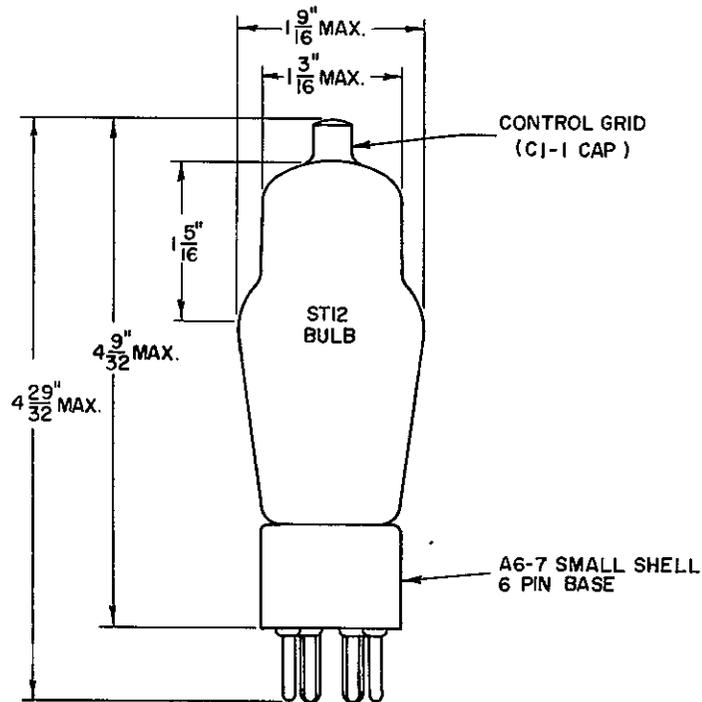
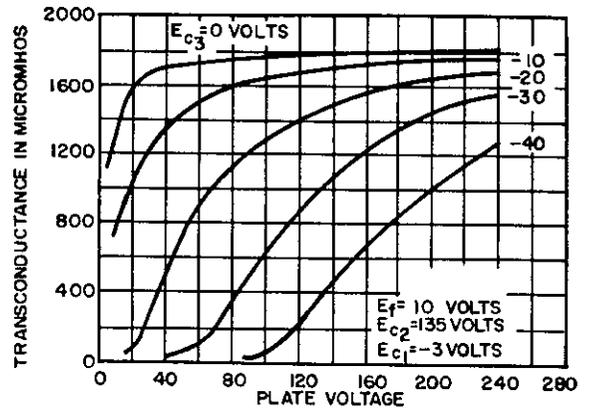
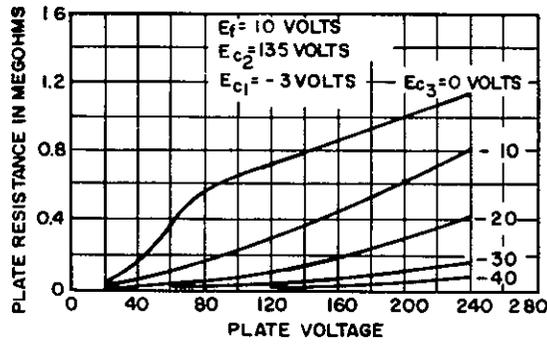
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

Heater Voltage	10.0	10.0	10.0 volts
Plate Voltage	135	180	250 volts
Screen Grid Voltage	135	135	135 volts
Control Grid Voltage	-3	-3	-3 volts
Suppressor Grid Voltage	0	0	0 volts
Plate Current	5.40	5.50	5.60 milliamperes
Screen Grid Current	1.20	1.18	1.17 milliamperes
Peak A-F Signal Voltage	3.00	1.50	2.10 volts
Plate Resistance	0.75	0.90	1.15 megohms
Transconductance	1800	1820	1840 micromhos
Load Resistance	20000	100000	100000 ohms
Power Output	250	150	310 milliwatts
Total Harmonic Distortion	8.5	6	6 per cent
Control Grid Voltage, Approximate, for 10 Microamperes Plate Current	-9.5	-9.5	-9.5 volts

*With external shield (RETMA #311) connected to cathode pin.







Western Electric

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