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## ELECTRON TUBE DATA SHEET

### WESTERN ELECTRIC 328 A ELECTRON TUBE



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#### DESCRIPTION

The 328A 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. This tube, except for having a different heater voltage and current rating, is identical to the 310A tube.

#### CHARACTERISTICS

Heater Voltage . . . . .	7.5 volts
Plate Current . . . . .	5.5 milliamperes
Transconductance . . . . .	1820 micromhos

$\left( \begin{array}{l} E_b = 180 \text{ volts; } E_{c2} = 135 \text{ volts;} \\ E_{c1} = -3 \text{ volts; } E_{c3} = 0 \end{array} \right)$

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Heater Voltage . . . . .		7.5 volts
Heater Current . . . . .		425 milliamperes
Direct Interelectrode Capacitances	without	with
	external	external shield
	shield	(RETMA #311)
Grid to Plate (maximum) . . . . .	0.016	*0.010 $\mu\mu^2$
Input: g1 to (h+k+g2+g3+i.s.) . . . . .	6.0	*7.0 $\mu\mu\text{f}$
Output: p to (h+k+g2+g3+i.s.) . . . . .	13	*13 $\mu\mu\text{f}$

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	

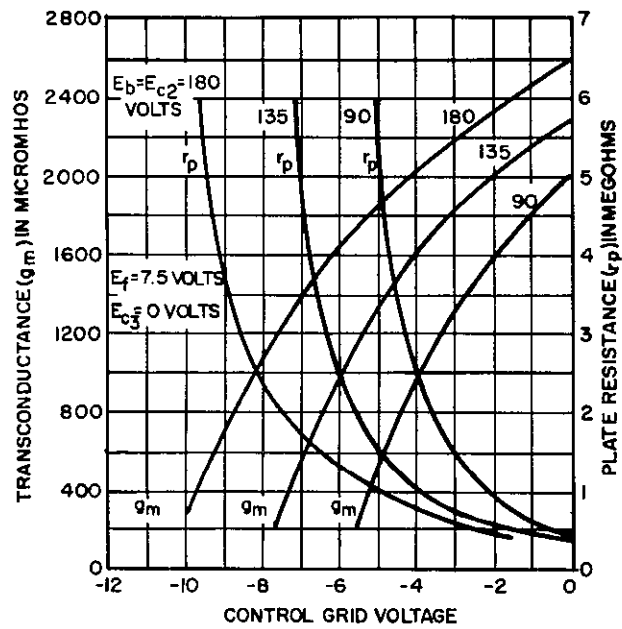
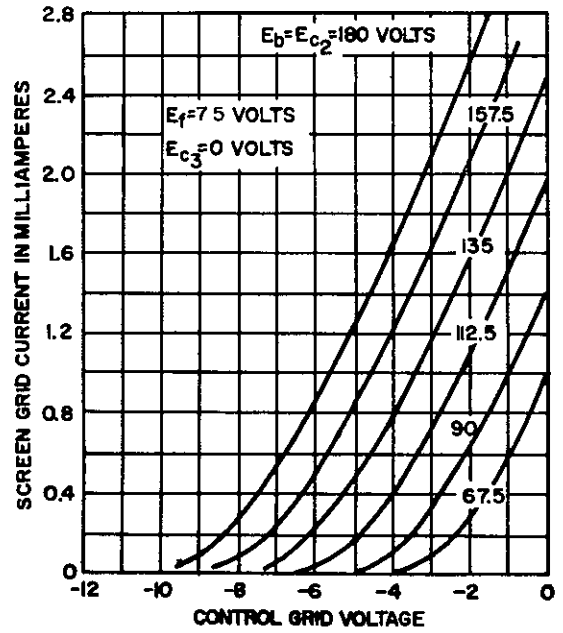
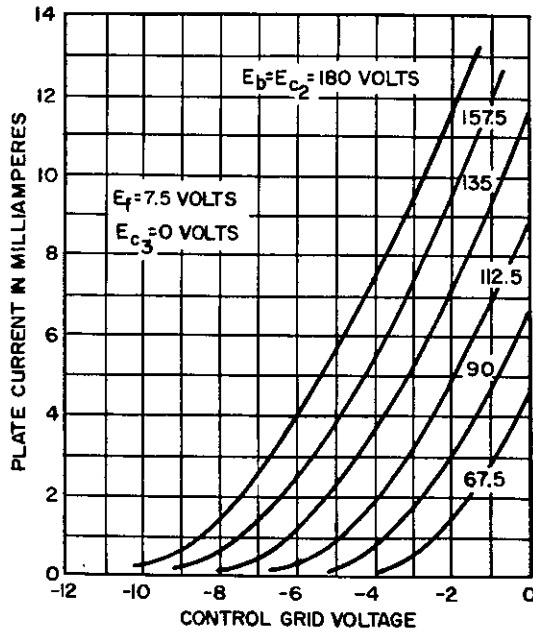
MAXIMUM RATINGS, Design-Center Values

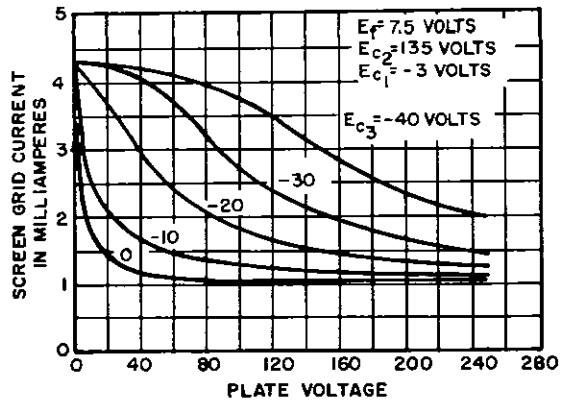
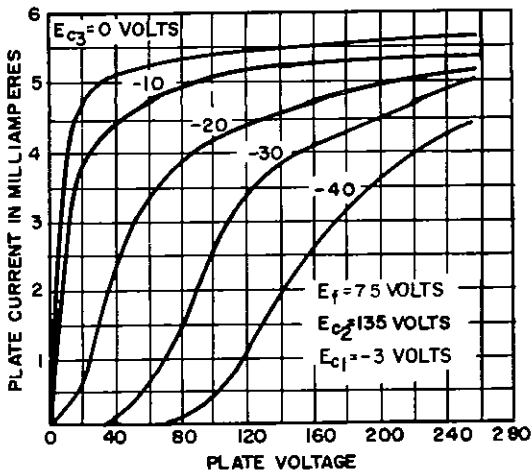
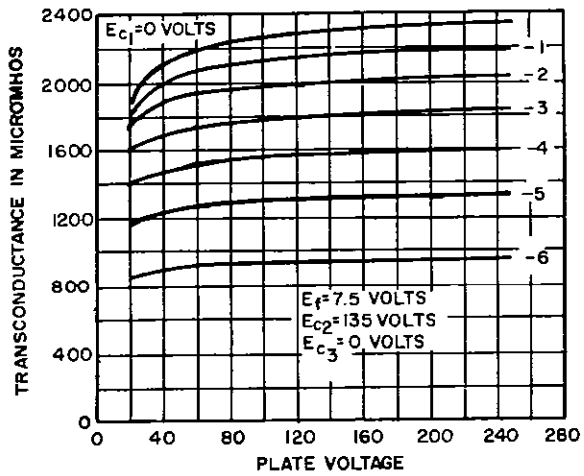
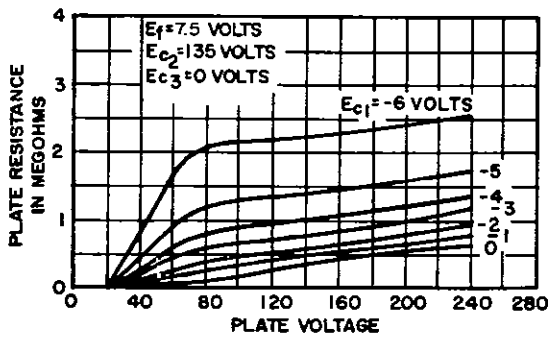
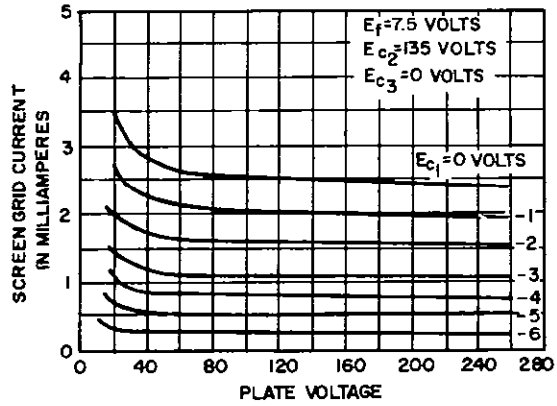
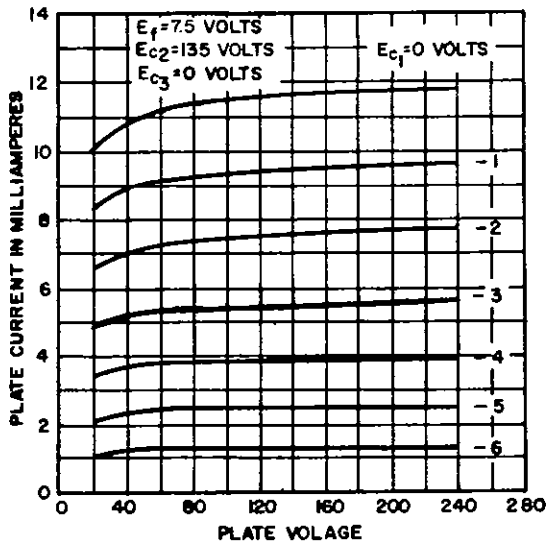
Plate Voltage . . . . .	250 volts
Screen Grid Voltage . . . . .	180 volts
Plate Dissipation . . . . .	2.0 watts
Screen Grid Dissipation . . . . .	0.4 watt
Cathode Current . . . . .	10 milliamperes
Heater-Cathode Voltage . . . . .	150 volts

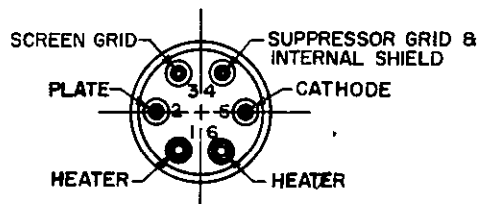
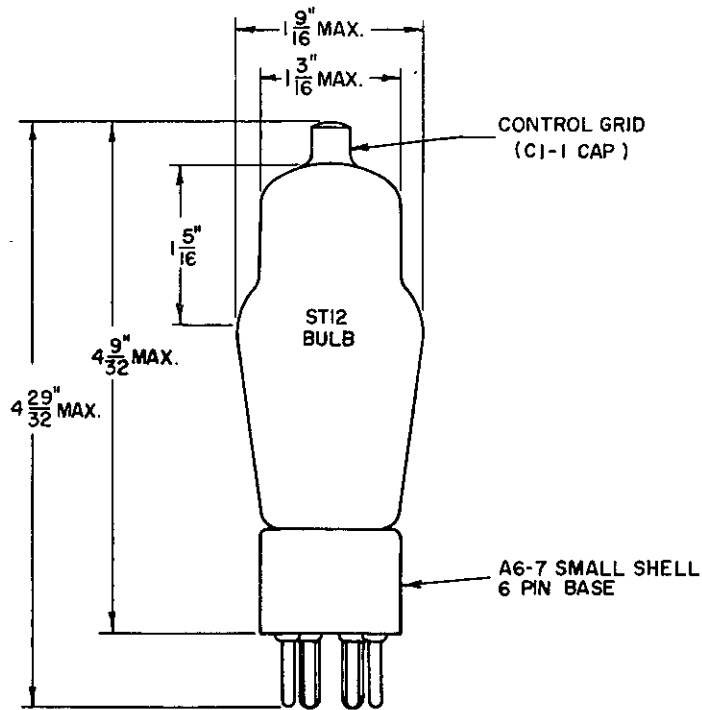
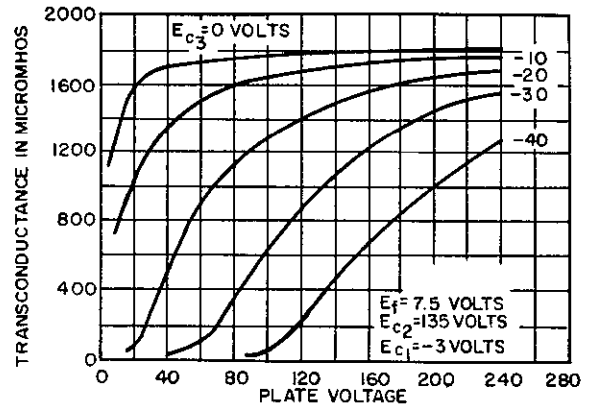
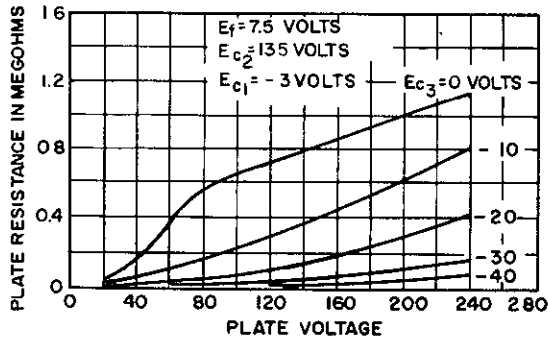
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

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	1620	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