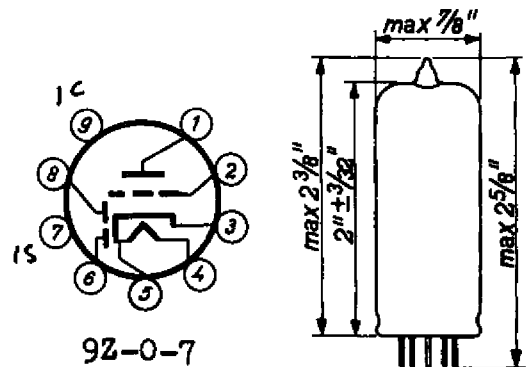


Type 6BD7

Double Diode-Triode for A.F. Amplification, Detection and A.G.C.

Physical Specifications

Cathode	Coated unipotential
Base	Small button noval 9-pin
Bulb	T 6½
Maximum overall length	2-5/8 inches
Maximum seated height	2-3/8 inches
Bulb length excluding tip	2±3/32 inches
Maximum diameter	7/8 inches
Mounting position	any
Basing connections - JETEC basing designation	9Z-0-7
Pin 1 - Plate	
Pin 2 - Grid	
Pin 3 - Cathode	
Pin 4 - Heater	
Pin 5 - Heater	
Pin 6 - Diode No. 1	
Pin 7 - Internal shield	
Pin 8 - Diode No. 2	
Pin 9 - Internal connection	



General Electrical Data

Heater voltage	6.3 volts
Heater current	0.23 amperes

Direct interelectrode capacitances

Triode plate to cathode	1.3	μμF
Grid to cathode	2.4	μμF
Triode plate to grid	1.3	μμF
Grid to heater	max. 0.05	μμF
Diode No.1 to cathode	0.8	μμF
Diode No.2 to cathode	0.75	μμF
Diode No.1 to heater	max. 0.3	μμF
Diode No.2 to heater	max. 0.05	μμF
Diode No.1 to diode No.2	max. 0.05	μμF

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1.

Type 6BD7
(Continued)

Direct interelectrode capacitances (continued)

Diode No.1 to grid	max. 0.01 $\mu\mu\text{F}$
Diode No.2 to grid	max. 0.01 $\mu\mu\text{F}$
Diode No.1 to triode plate	max. 0.005 $\mu\mu\text{F}$
Diode No.2 to triode plate	max. 0.015 $\mu\mu\text{F}$

Maximum Ratings

Triode section

Plate voltage (without current)	550 volts
Plate voltage	300 volts
Plate dissipation	0.5 watts
Cathode current	5 milli-amps
Grid voltage at grid current = +0.3 μa	-1.3 volts
External resistance between grid and cathode	3 megohms ¹⁾
External resistance between heater and cathode	20,000 ohms
Voltage between heater and cathode	100 volts

Diode section

Plate voltage (peak value)	200 volts
Plate current	0.8 milli-amps
Plate voltage at plate current = +0.3 μa	-1.3 volts
External resistance between heater and cathode	20,000 ohms
Voltage between heater and cathode	100 volts

TYPICAL CHARACTERISTICS OF THE TRIODE SECTION

Plate voltage	250 volts
Grid voltage	-3 volts
Plate current	1.0 milli-amps
Transconductance	1200 micromhos
Gain factor	70
Plate resistance	58,000 ohms

¹⁾ The maximum value of this resistance is 22 megohms when the grid bias is only obtained by the voltage drop across the grid leak.

Type 6BD7
(Continued)

OPERATING CONDITIONS OF THE TRIODE SECTION

Supply voltage = 250 volts

Plate resistor	0.22	0.1	0.22	0.1 megohms
Cathode resistor	1800	1200	0	0 ohms
Grid leak	1	1	10	10 megohms
Grid leak of the output tube	0.68	0.33	0.68	0.33 megohms
Plate current	0.70	1.15	0.76	1.40 milli-amps
Gain	51	43	52	44
Distortion at an output voltage of 5 volts _{rms}	0.55	0.6	0.5	0.7 per cent
Distortion at an output voltage of 10 volts _{rms}	0.9	1.1	0.75	0.9 per cent

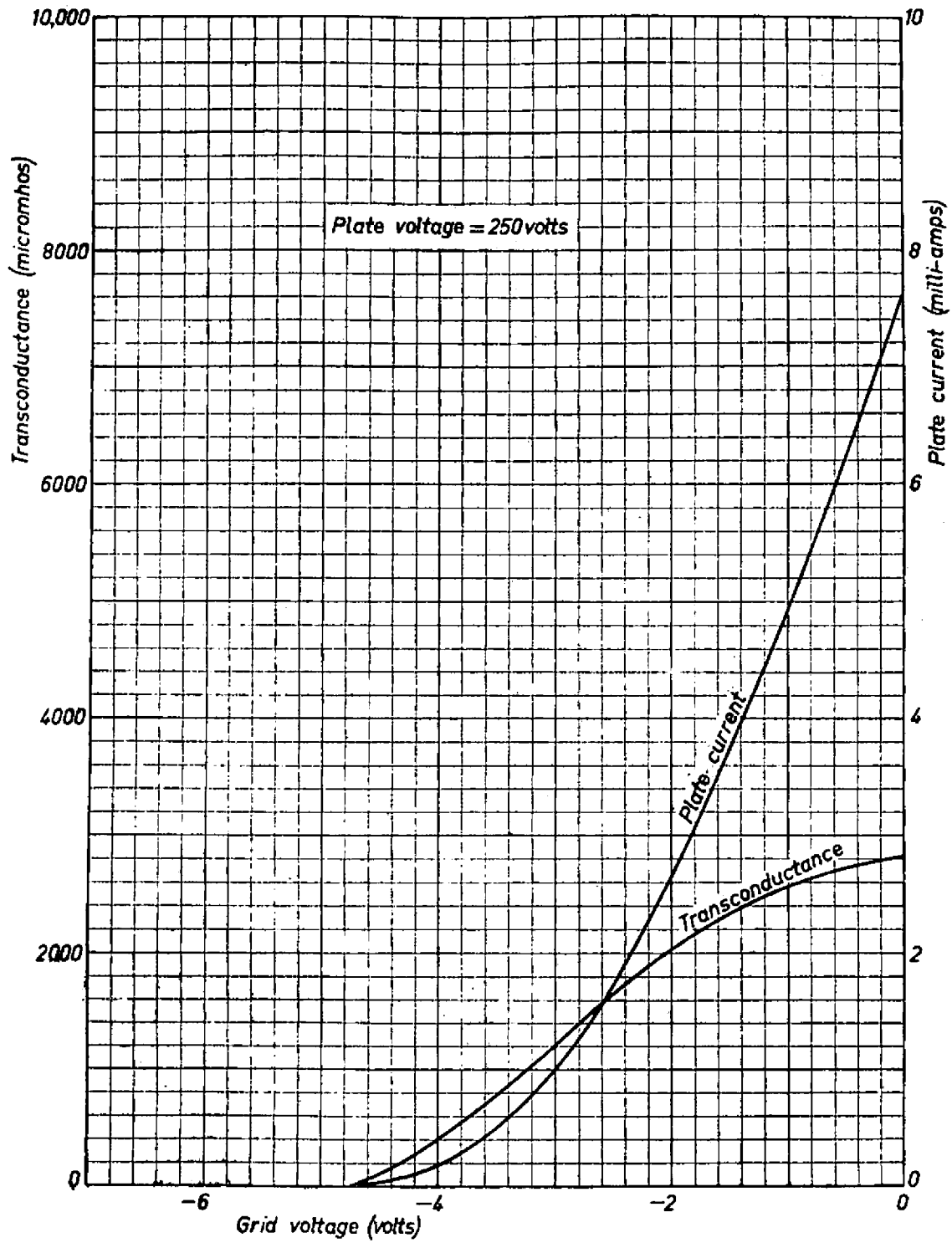
In circuits with a 5 % speaker this tube may be used without special precautions against microphonic effect, if the input voltage for an output of 50 milliwatts of the output tube exceeds 10 milli-volts.

11.11.1949

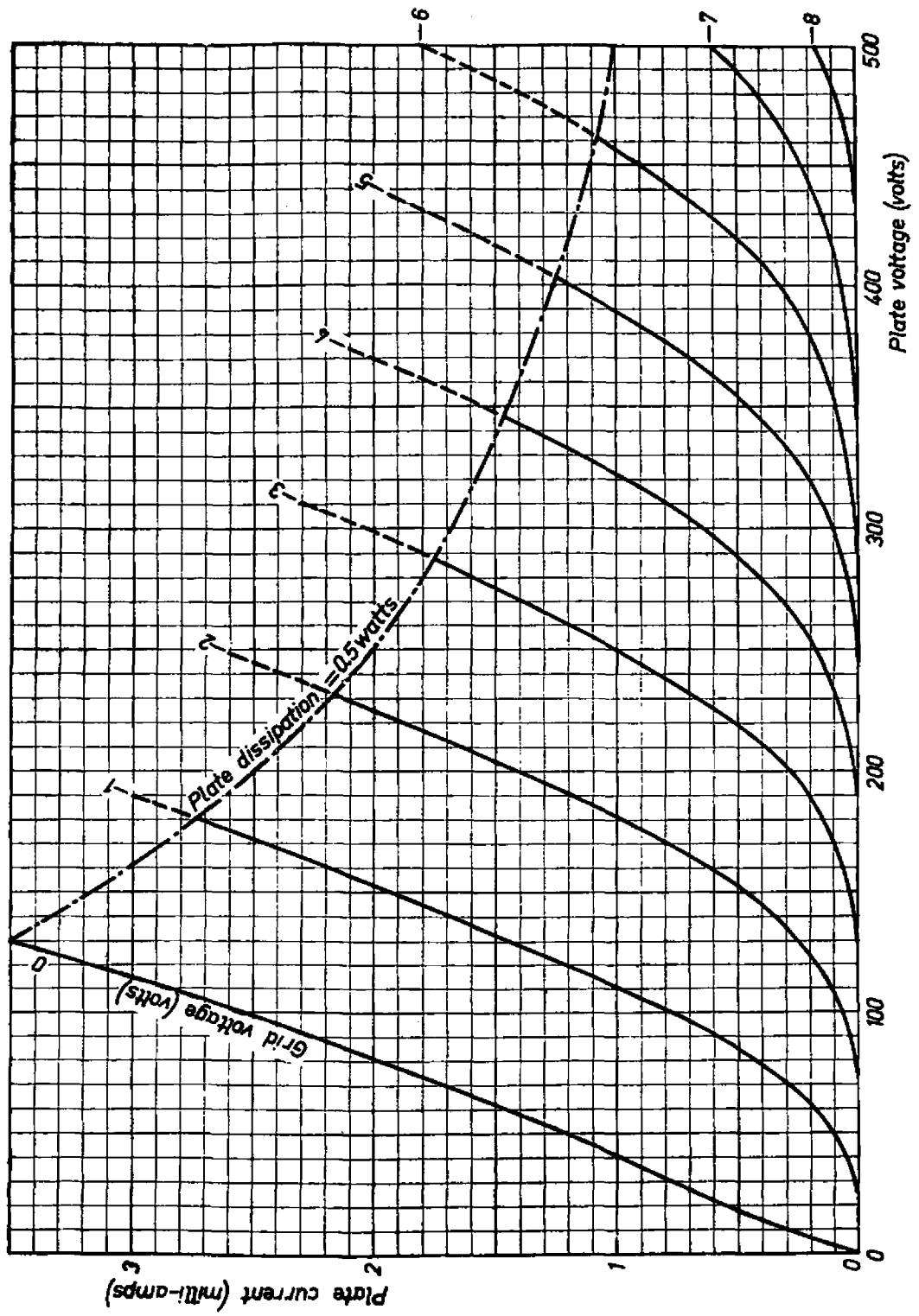
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