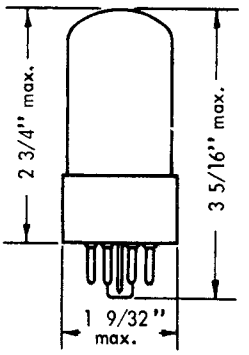
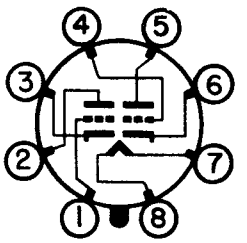
TYPE 6SN7WGT 12SN7WGT

Excellence in Electronics

The 6SN7WGT is a heater-cathode type medium-mu double triode designed for use as a voltage amplifier or phase inverter, in applications when severe conditions of shock and vibration are encountered.

The 12SN7WGT is identical to the 6SN7WGT except for heater characteristics and is especially useful in AC/DC applications.





BOTTOM VIEW

8BD

MECHANICAL DATA

ENVELOPE: T-9 Glass

BASE: Intermediate or Short Intermediate Shell Octal 8-Pin

TERMINAL CONNECTIONS:

Pin 1 Grid, Unit 2	Pin 5 Plate, Unit 1
Pin 2 Plate, Unit 2	Pin 6 Cathode, Unit 1
Pin 3 Cathode, Unit 2	Pin 7 Heater
Pin 4 Grid, Unit 1	Pin 8 Heater

MOUNTING POSITION: Any

ELECTRICAL DATA

HEATER CHARACTERISTICS:

	6SN7WGT	12SN7WGT	
Heater Voltage (ac or dc)	6.3	12.6	volts
Heater Current	0.6	0.3	amps.
Maximum Heater-Cathode Voltage:			
Heater Positive with Respect to Cathode			
DC Component	100	100	volts
Total DC and Peak	200	200	volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	volts

DIRECT INTERELECTRODE CAPACITANCES: ($\mu\mu$fds.)

	Unit 1	Unit 2
Grid to Plate: (g to p)	3.7	3.7
Input: g to (h+k)	2.2	2.5
Output: p to (h+k)	0.7	0.8

DESIGN CENTER MAXIMUM RATINGS:

Plate Voltage	300	volts
Plate Dissipation ♦		
Each Plate	3.5	watts
Both Plates	5.0	watts
DC Cathode Current	20	ma.
Grid Circuit Resistance		
Fixed Bias	1.0	meg.
Cathode Bias	1.0	meg.

CHARACTERISTICS AND TYPICAL OPERATION - CLASS A1 AMPLIFIER:

Plate Voltage	90	250	volts
Grid Voltage	0	-8.0	volts
Amplification Factor	20	20	
Transconductance	3000	2600	μmhos
Plate Resistance (approx.)	6700	7700	ohms
Plate Current	10	9	ma.
Plate Current at Ec=-12.5	----	1.3	ma.
Grid Voltage (approx.) for Ib=10 μa.	-7.0	-18	volts

♦ *In stages operating with grid-leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.*

Tentative Data

Printed in U.S.A.

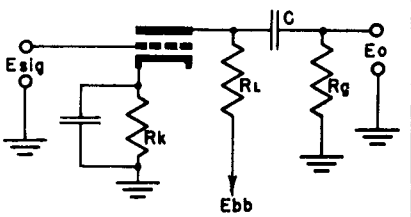
RAYTHEON

DOUBLE - TRIODE

RESISTANCE - COUPLED AMPLIFIER CHART

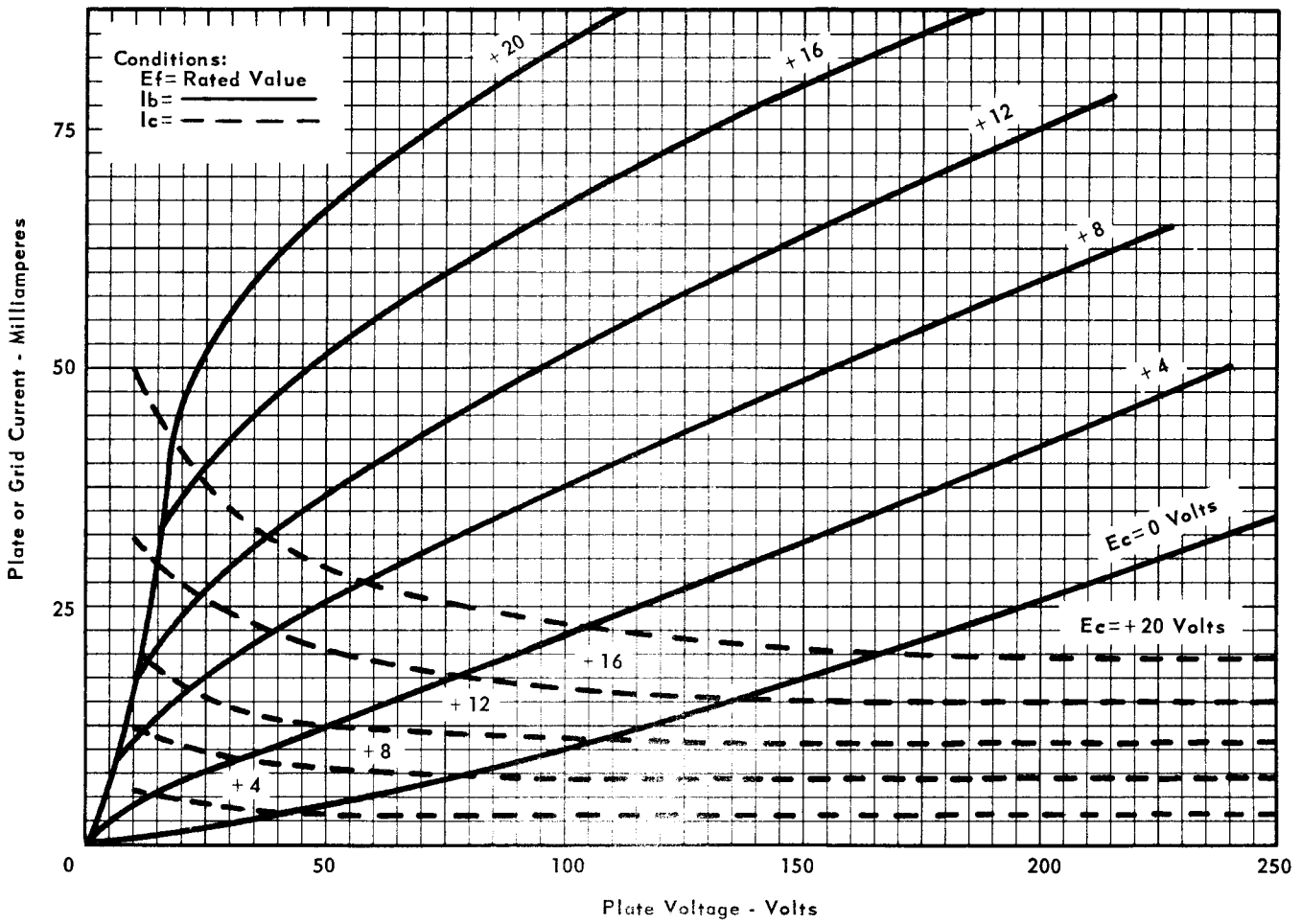
		Ebb = 90 volts			Ebb = 180 volts			Ebb = 300 volts		
R_L	Rg	Rk	Eo	Gain ●	Rk	Eo	Gain ●	Rk	Eo	Gain ●
0.05	0.05	1650	11	11	1190	24	13	1020	41	13
	0.1	2070	14	12	1490	30	13	1270	51	14
0.1	0.1	3470	12	13	2330	26	14	1900	43	14
	0.25	3940	17	13	2830	34	14	2440	56	14
0.25	0.25	7860	14	13	5560	28	14	4590	46	14
	0.5	9760	18	13	7000	36	14	5770	57	14

Eo = Voltage across Rg at grid-current point.
● = At 5 volts (RMS) output.



Value of C selected for desired frequency response. Rk should be adequately by-passed.

AVERAGE PLATE CHARACTERISTICS



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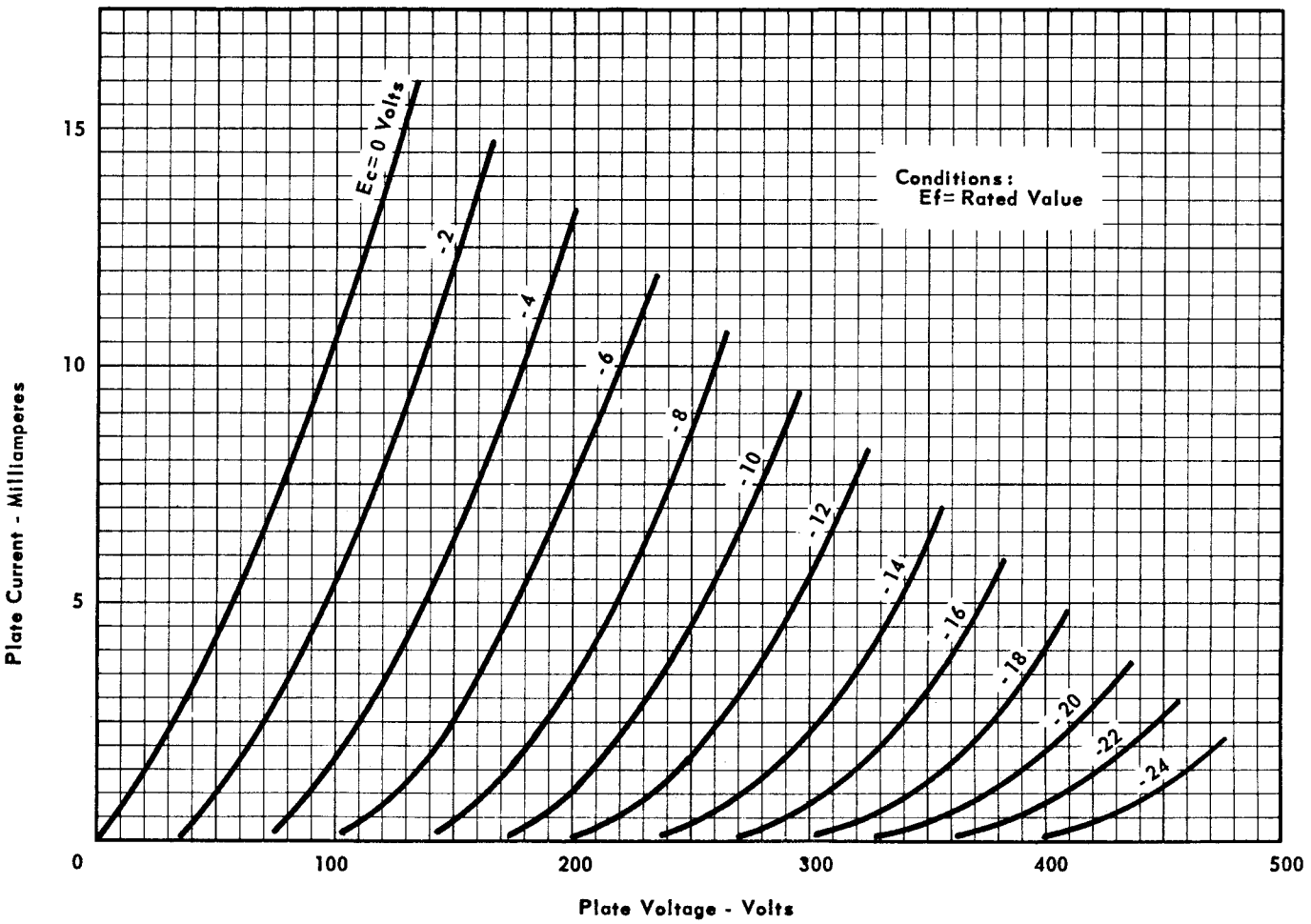

DOUBLE - TRIODE