MEDIUM-MU TWIN TRIODE TYPES 5J6, 6J6 AND 6J6-A

The 5J6, 6J6 and 6J6-A are miniature 7-pin twin triode types designed for service as radio-frequency oscillators, amplifiers, or audio-frequency amplifiers. With the grids in push-pull and the plates in parallel, they can be used as mixers at frequencies up to 600 megacycles.

The 5J6 and 6J6-A have been designed for use in receivers which employ series connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL:

Cathode	Coated Unipotential		
Heater:	5J6	6J6 6J6-A	
Voltage (ac or dc)	4.7	6.3	Volts
Current	0.60	0.45	Amperes
Warm-up Time●	11	11□	Seconds
Direct Interelectrode Capacitances (Each Unit):		(Unshielded)	
Grid to Plate		1.5	μμf
Input		2.0	μμf
Output		0.4	μμf

MECHANICAL:

Bulb	T-5-1/2
Base	Small-Button Miniature 7-pin
Basing	7BF
Mounting Position	Any

MAXIMUM RATINGS:

Design-Center Values

Plate Voltage	300	max.	Volts
Plate Dissipation	1.5	max.	Watts
Peak Heater-Cathode Voltage: Heater Positive or Negative with Respect to Cathode	100	max.	Volts

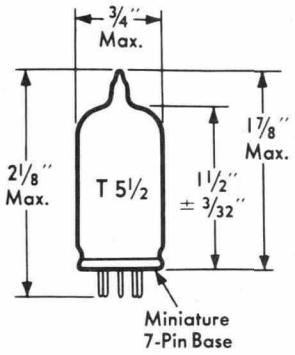
MAXIMUM CIRCUIT VALUES:

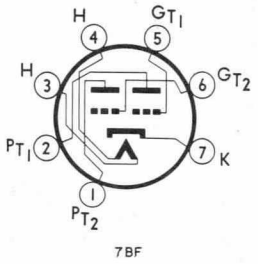
Grid-Circuit Resistance

Cathode-Bias Operation	0.5	max.	Megohm

CHARACTERISTICS AND TYPICAL OPERATION:

Plate Voltage	100	Volts
Cathode Bias Resistor (Common to Each Unit)	50	Ohms
Amplification Factor	38	
Plate Resistance	7100	Ohms
Transconductance	5300	μmhos
Plate Current	8.5	Ma.





OSCILLATOR – CLASS C
RF POWER AMPLIFIER & OSCILLATOR–CLASS C TELEGRAPHY

MAXIMUM RATINGS (Each Unit)
Design Center Values

DC Plate Voltage	300	max.	Volts
DC Grid Voltage	–40	max.	Volts
DC Plate Current	15	max.	Ma.
DC Grid Current	8	max.	Ma.
Plate Input	4.5	max.	Watts
Plate Dissipation	1.5	max.	Watts
Heater-Cathode Voltage:			
Heater Positive or Negative with Respect to Cathode	100	max.	Volts

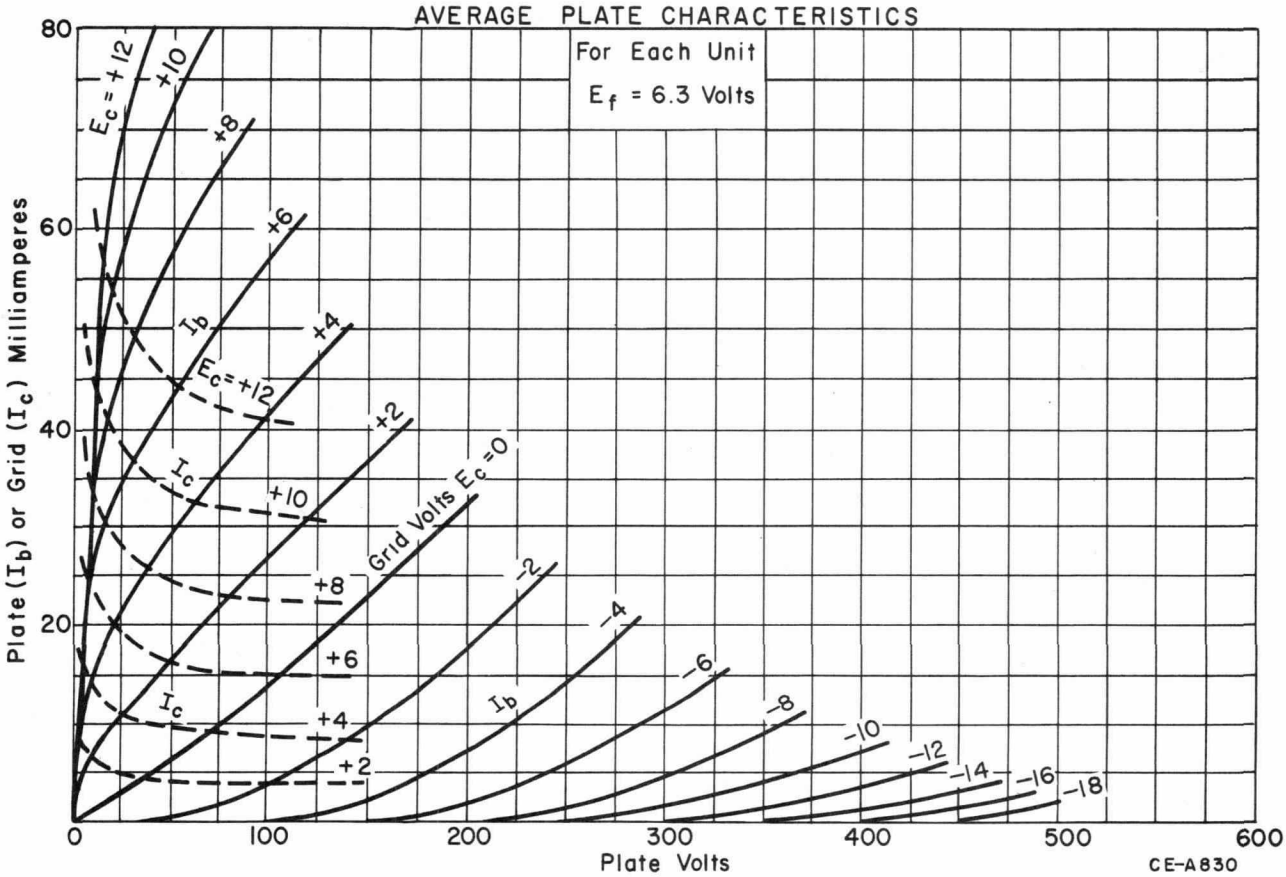
(TYPICAL PUSH-PULL OPERATION AT MODERATE FREQUENCIES)
Both Units

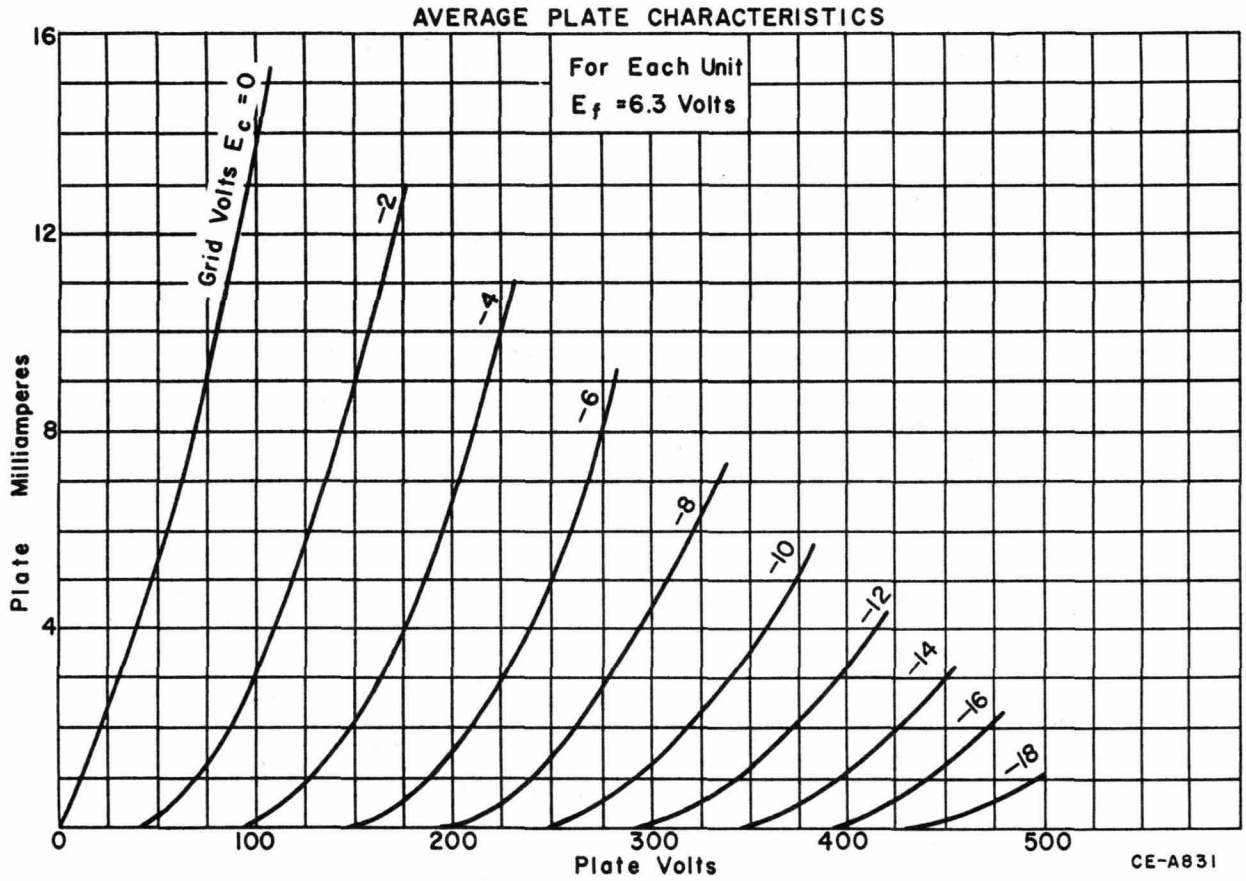
DC Plate Voltage	150	Volts
DC Grid Voltage:		
from a fixed supply of	–10	Volts
from a grid resistor of	625	Ohms
from a cathode resistor of	220	Ohms
DC Plate Current	30	Ma.
DC Grid Current (Approx.)	16	Ma.
Driving Power (Approx.)	0.35	Watts
Power Output (Approx.)	3.5	Watts

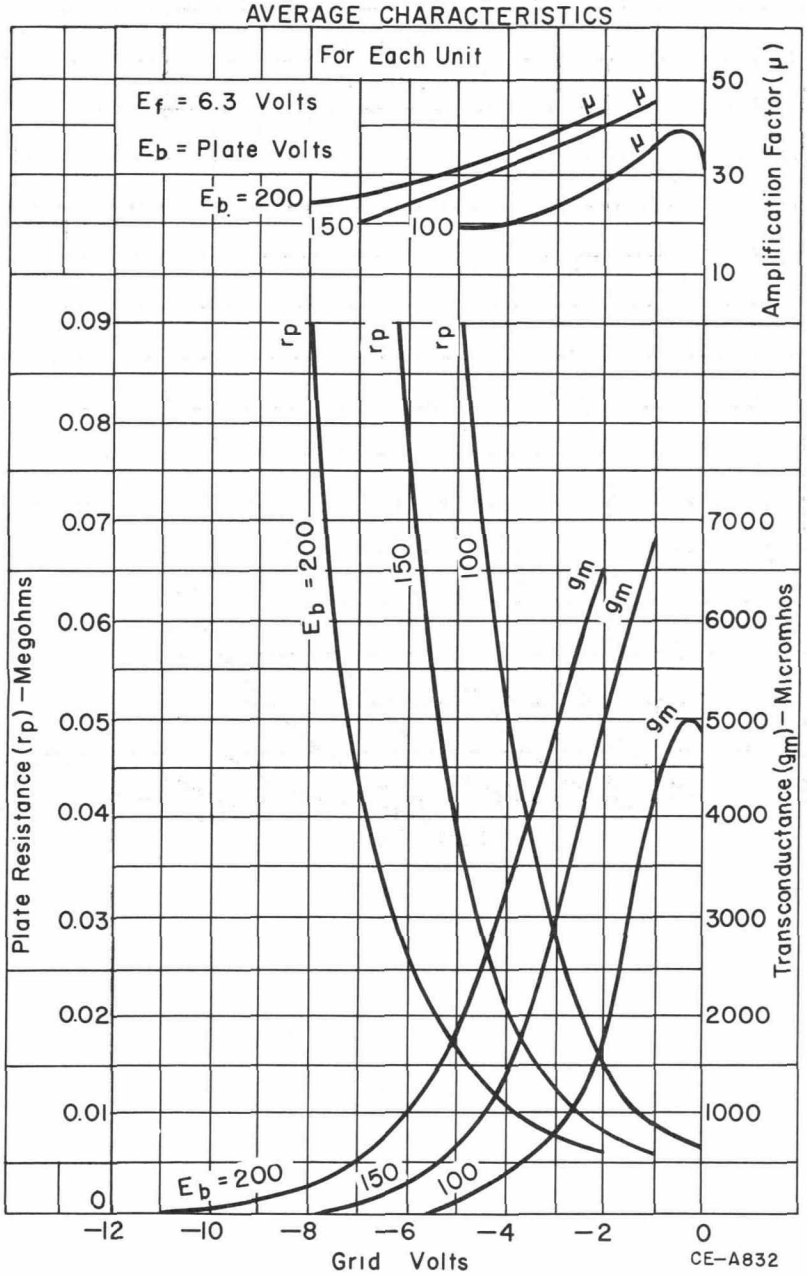
As a push-pull oscillator at 250 Mc approximately 1.0 watt can be obtained with a grid resistor of 2000 ohms common to both units and a plate voltage of 150 volts. Maximum rated plate dissipation must not be exceeded.

● Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.

□ 6J6-A only.




AVERAGE PLATE CHARACTERISTICS
For Each Unit
E_f =6.3 Volts
Grid Volts E_c =0
-2
-4
-6
-8
-10
-12
-14
-16
-18
Plate Milliamperes
16
12
8
4
0
100
200
300
400
500
Plate Volts
CE-A831


AVERAGE CHARACTERISTICS
For Each Unit
Ef = 6.3 Volts
Eb = Plate Volts
Eb = 200
150
100
μ
rp
gm
Amplification Factor (μ)
Plate Resistance (rp) —Megohms
Transconductance (gm)— Micromhos
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
50
30
10
7000
6000
5000
4000
3000
2000
1000
−12
−10
−8
−6
−4
−2
0
Grid Volts
CE-A832