VHF FREQUENCY-MULTIPLIER TYPE 8084

The 8084 is a 7-pin miniature, sharp-cutoff frame grid pentode designed particularly for service in mobile communication equipment as a VHF frequency multiplier. The 8084 is also suitable for VHF amplifier and oscillator circuits. The 8084 features a heater-cathode structure designed to render reliable operation when operated from a 6-cell storage battery primary power system.

ELECTRICAL

Cathode	Coated Unipotential	
Heater:		
Voltage, ac or dc (Note 1)	13.5	Volts
Current	0.160	Amperes
Direct Interelectrode Capacitances (Shielded): (Note 2)		
Grid 1 to Plate	0.04 max.	μμf
Input	8.0	μμf
Output	3.0	μμf

MECHANICAL

Bulb	T-5-1/2
Base	Miniature 7-Pin (JEDEC E7-1)
Outline	5-2
Basing	7CM
Mounting Position	Any

AMPLIFIER - CLASS A_1

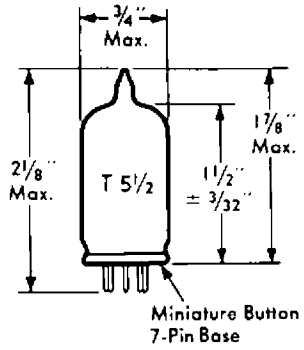
MAXIMUM RATINGS

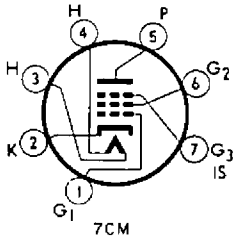
Absolute Maximum Values

Plate Voltage	250	max.	Volts
Grid 3 Voltage	0	max.	Volts
Grid 2 (Screen) Supply Voltage	180	max.	Volts
Grid 2 Voltage	See Grid 2 Input Rating Chart		
Plate Dissipation	2.3	max.	Watts
Grid 2 Dissipation	0.5	max.	Watts
Grid 1 Control Grid Voltage:			
Positive Value	0	max.	Volts
Cathode Current	20	max.	Ma.
Heater-Cathode Voltage:			
Heater Negative with Respect to Cathode:			
Total DC and Peak	100	max.	Volts
Heater Positive with Respect to Cathode:			
DC Component	50	max.	Volts
Total DC and Peak	100	max.	Volts

TYPICAL OPERATING CHARACTERISTICS:

Plate Voltage	125	Volts
Grid 2 Voltage	80	Volts
Grid 1 Voltage	−1	Volts
Transconductance	10500	μmhos
Grid 1 Cutoff Bias (Note 3)	−3.5	Volts
Plate Current	7	Ma.
Grid 2 Current	1.7	Ma.





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WESTINGHOUSE ELECTRIC CORPORATION, ELECTRONIC TUBE DIVISION, ELMIRA, NEW YORK

AMPLIFIER - CLASS C
OSCILLATOR - CLASS C
FREQUENCY MULTIPLIER - CLASS C

MAXIMUM RATINGS, CCS
Absolute Maximum Values

DC Plate Voltage	250	max.	Volts
DC Grid 3 Voltage	0	max.	Volts
DC Grid 2 Supply Voltage	180	max.	Volts
DC Grid 2 Voltage	See Grid 2 Input Rating Chart		
DC Grid 1 Voltage	-50	max.	Volts
DC Plate Current	15	max.	Ma.
DC Grid 2 Current	3	max.	Ma.
DC Grid 1 Current	1.5	max.	Ma.
Plate Dissipation	2.3	max.	Watts
Grid 2 Dissipation	0.5	max.	Watts
Grid 1 Circuit Resistance	0.1	max.	Megohms

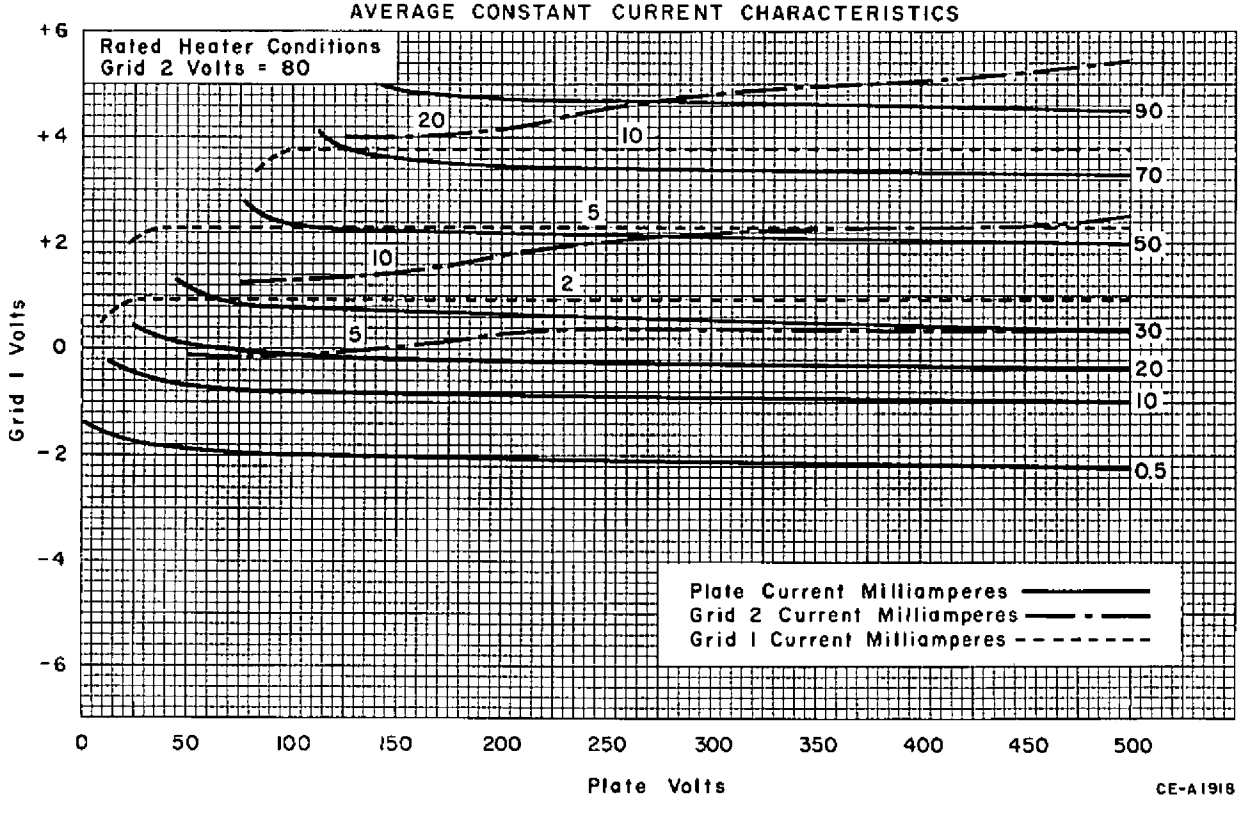
TYPICAL OPERATING CHARACTERISTICS
Tripler Service to 75 Mc. (Class C)

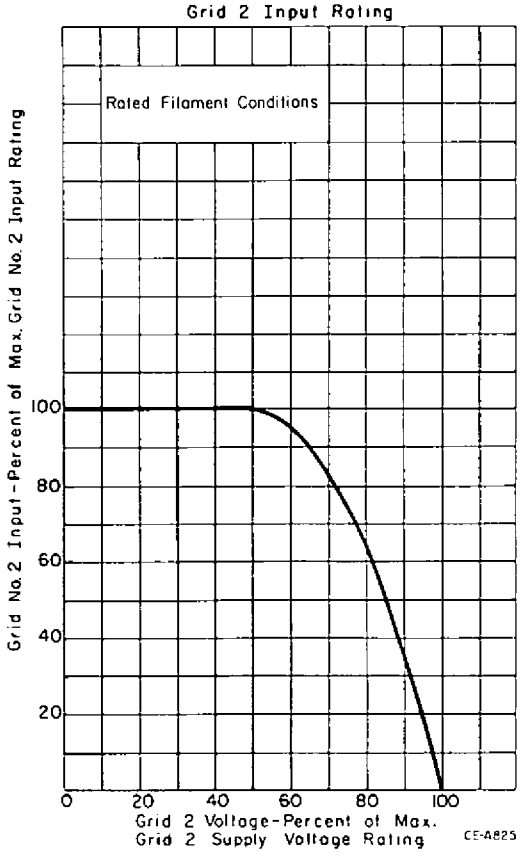
Plate Voltage	200	Volts
Grid 3 Voltage	0	Volts
Grid 2 Voltage	80	Volts
Grid 1 Voltage (Note 4)	-23	Volts
Peak RF Grid 1 Voltage	26	Volts
Plate Current	8.4	Ma.
Grid 2 Current	2.16	Ma.
Grid 1 Current (Approx.)	785	μAmperes
Driving Power	22	Milliwatts
Power Output (Approx.)	0.45	Watts

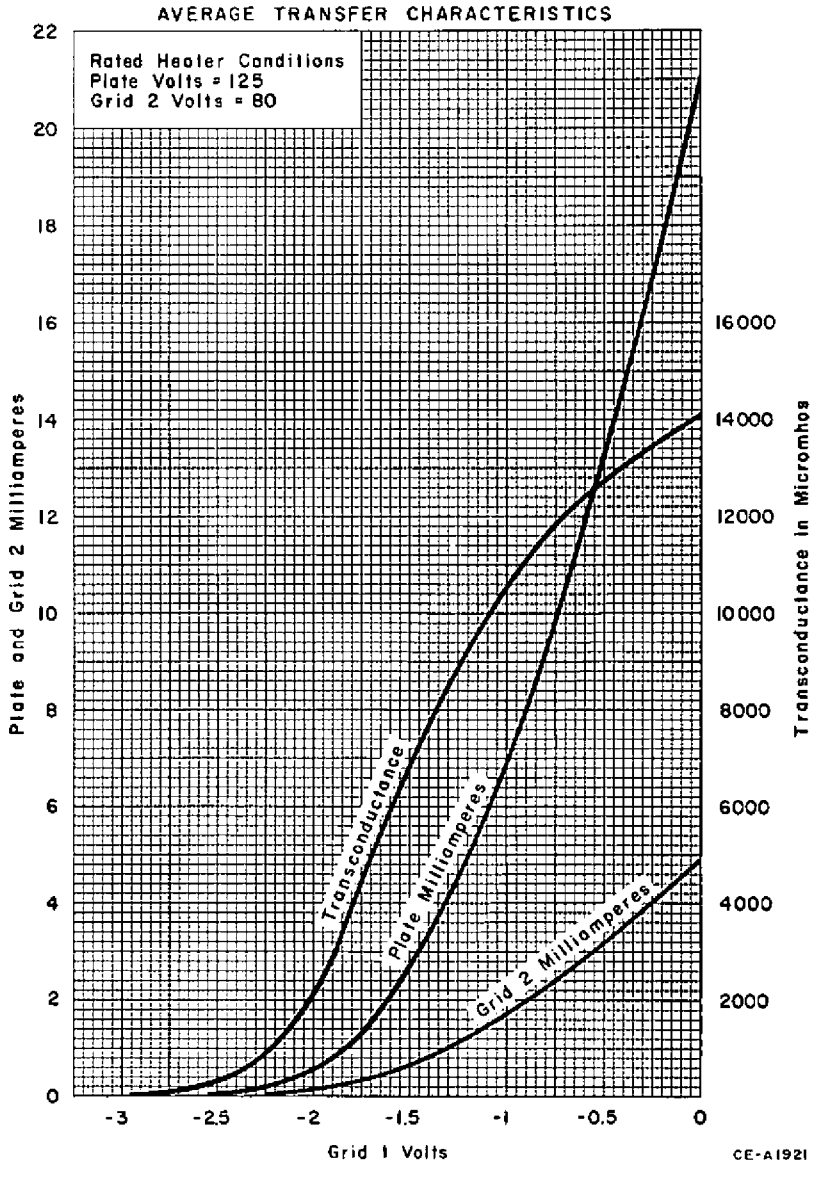
NOTES

1. Heater voltage range is 11.8 to 15.5 volts.
2. With JEDEC Shield No. 316 connected to pin 2.
3. For transconductance of 100 micromhos.
4. Developed across a grid resistor of 30,000 ohms.

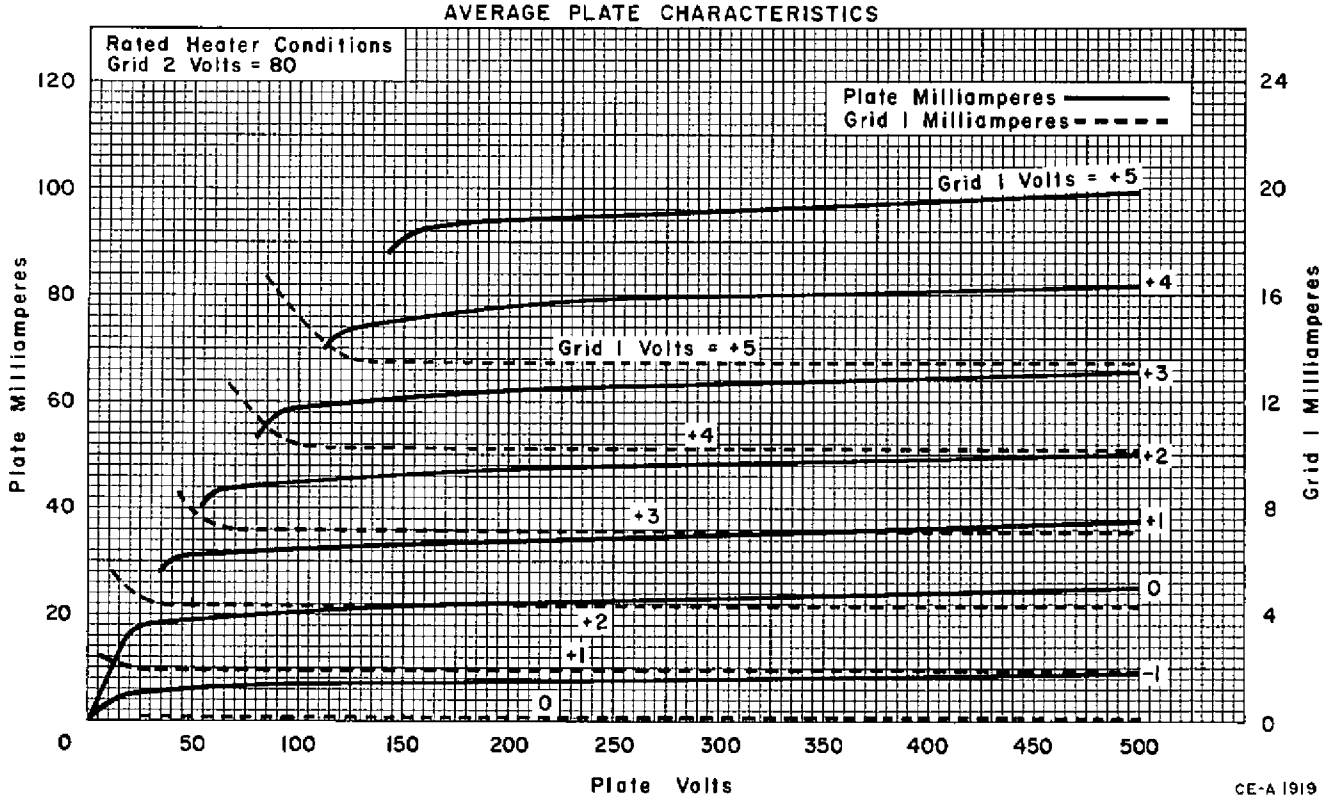
AVERAGE CONSTANT CURRENT CHARACTERISTICS




Grid 2 Input Rating
Rated Filament Conditions
Grid No. 2 Input-Percent of Max. Grid No. 2 Input Rating
100
80
60
40
20
0
20
40
60
80
100
Grid 2 Voltage-Percent of Max. Grid 2 Supply Voltage Rating
CE-A825


AVERAGE TRANSFER CHARACTERISTICS
Rated Heater Conditions
Plate Volts = 125
Grid 2 Volts = 80
Plate and Grid 2 Milliamperes
22
20
18
16
14
12
10
8
6
4
2
0
Transconductance in Micromhos
16000
14000
12000
10000
8000
6000
4000
2000
Transconductance
Plate Milliamperes
Grid 2 Milliamperes
-3
-2.5
-2
-1.5
-1
-0.5
0
Grid 1 Volts
CE-A1921

AVERAGE PLATE CHARACTERISTICS



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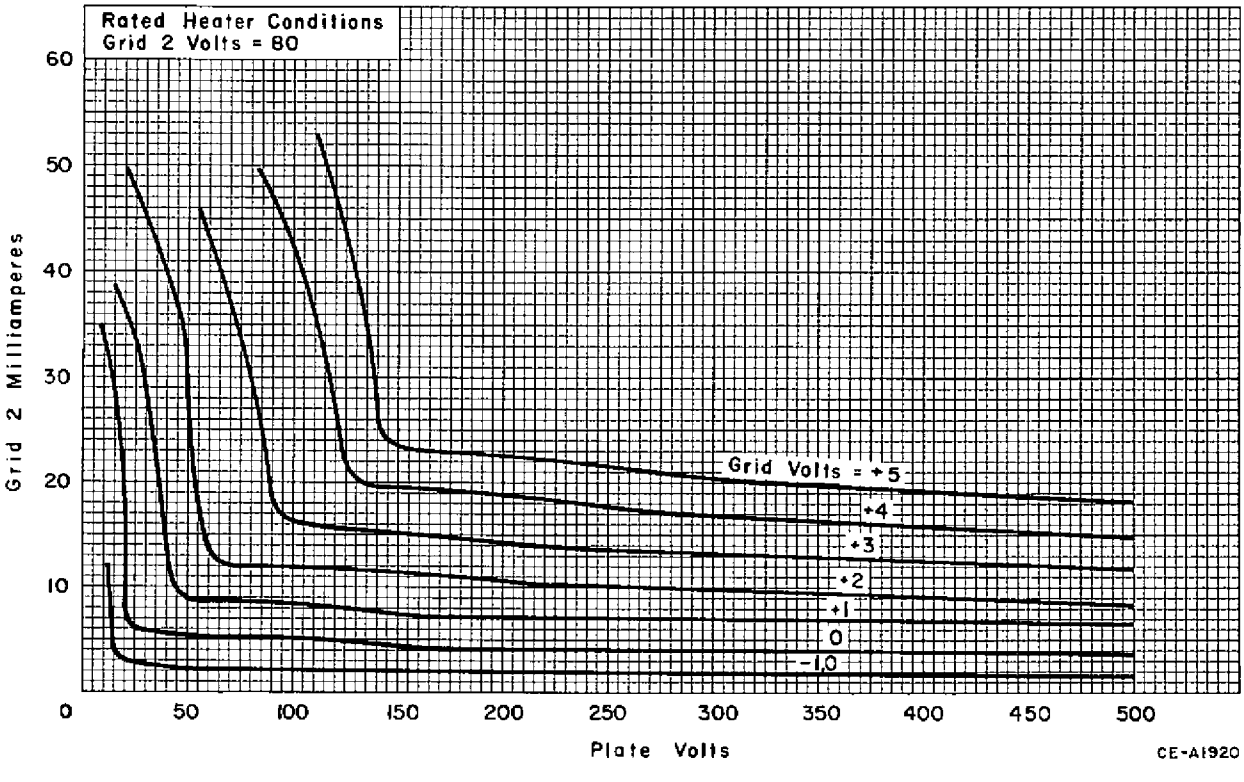
AVERAGE GRID 2 CHARACTERISTICS



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