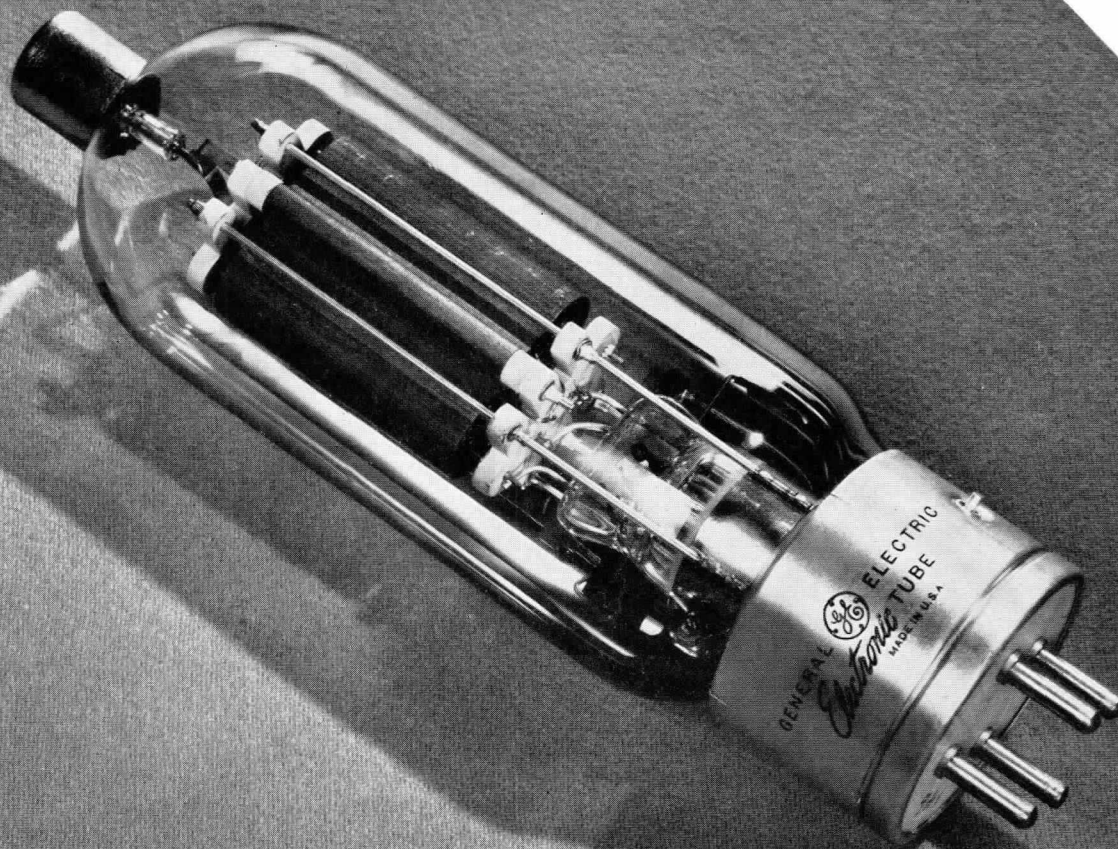




TRIODE

DESCRIPTION

The GL-146 is a three-electrode tube designed for use as a zero-bias Class B amplifier. It may be used also as a Class C radio-frequency power amplifier

and oscillator. This tube can be operated at maximum ratings at frequencies as high as 15 megacycles and up to 60 megacycles at reduced ratings.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL CHARACTERISTICS

Number of electrodes	3
Electrical	
Cathode—Filamentary	
Filament voltage	10 volts
Filament current	3.25 amperes
Amplification factor, $I_b = 90$ ma	75
Grid-plate transconductance	3900 micromhos
Direct interelectrode capacitances:	
Grid-plate	8.4 micromicrofarads
Input	7.6 micromicrofarads
Output	3.5 micromicrofarads
Mechanical	
Base	4310
Net weight, approx.	14 ounces
Shipping weight, approx.	3 pounds
Mounting position	vertical, base up or down— horizontal, filament in vertical plane



TECHNICAL INFORMATION (CONT'D)

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

	Typical Operation		Maximum Ratings	
CLASS B AUDIO-FREQUENCY POWER AMPLIFIER (TWO TUBES)				
D-c plate voltage.....	1000	1250	1500	volts
Max signal plate current, per tube.....	0.160	0.160	0.175	ampere
D-c max signal plate input, per tube.....			250	watts
Plate dissipation, per tube.....			125	watts
D-c grid voltage.....	0	0		volts
Zero signal plate current.....	.02	.034		ampere
Max signal plate current.....	0.32	0.32		ampere
Max signal plate input*	320	400		watts
Effect load resistance, plate-to-plate.....	7000	8400		ohms
Max signal plate power output.....	200	250		watts

CLASS B RADIO-FREQUENCY AMPLIFIER

Carrier conditions per tube for use with a max modulation factor of 1.0

D-c plate voltage.....	1000	1250	1500 volts
D-c grid voltage.....	0	0	0 volts
D-c plate current.....	0.15	0.132	0.175 ampere
Plate input.....			200 watts
Plate dissipation.....			125 watts
Plate power output.....	45	55	watts

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR—PLATE MODULATED

Carrier conditions per tube for use with a max modulation factor of 1.0

D-c plate voltage.....	1000	1250	volts
D-c grid voltage.....	-200	-400	volts
D-c plate current.....	0.16	0.175	ampere
D-c grid current, approx.....	0.04	0.06	ampere
Plate input.....		220	watts
Plate dissipation.....		80	watts
Plate power output.....	100		watts

CLASS C RADIO-FREQUENCY POWER AMPLIFIER AND OSCILLATOR

Key-down conditions per tube without modulation†

D-c plate voltage.....	1250	1500	volts
D-c grid voltage.....	-150	-400	volts
D-c plate current.....	0.18	0.20	ampere
D-c grid current, approx.....	0.03	0.06	ampere
Plate input.....		300	watts
Plate dissipation.....		125	watts
Plate power output.....	150		watts

*Averaged over any audio-frequency cycle.

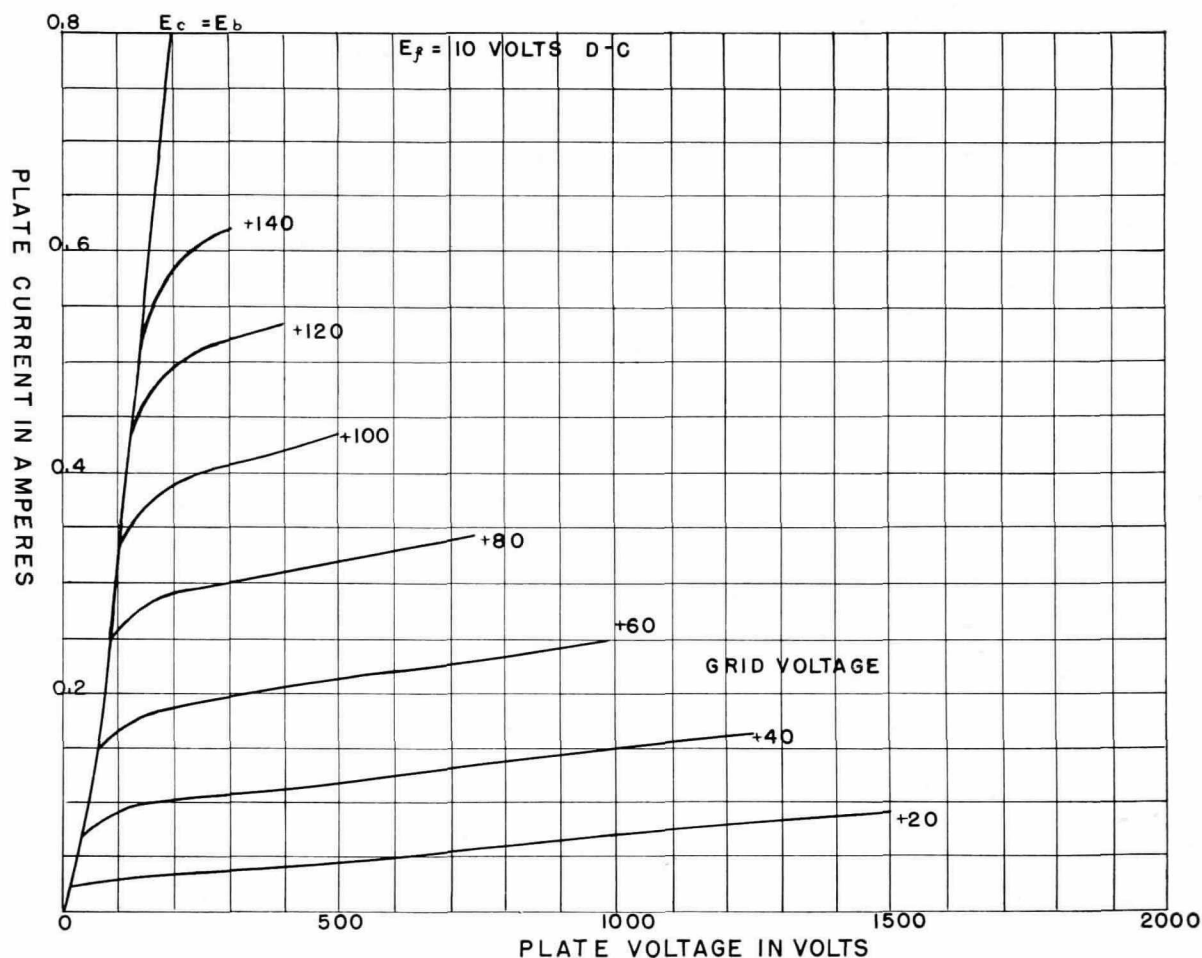
†Modulation, essentially negative, may be used if the positive peak of audio-frequency envelope does not exceed 115 per cent of the carrier conditions.

APPLICATION NOTES

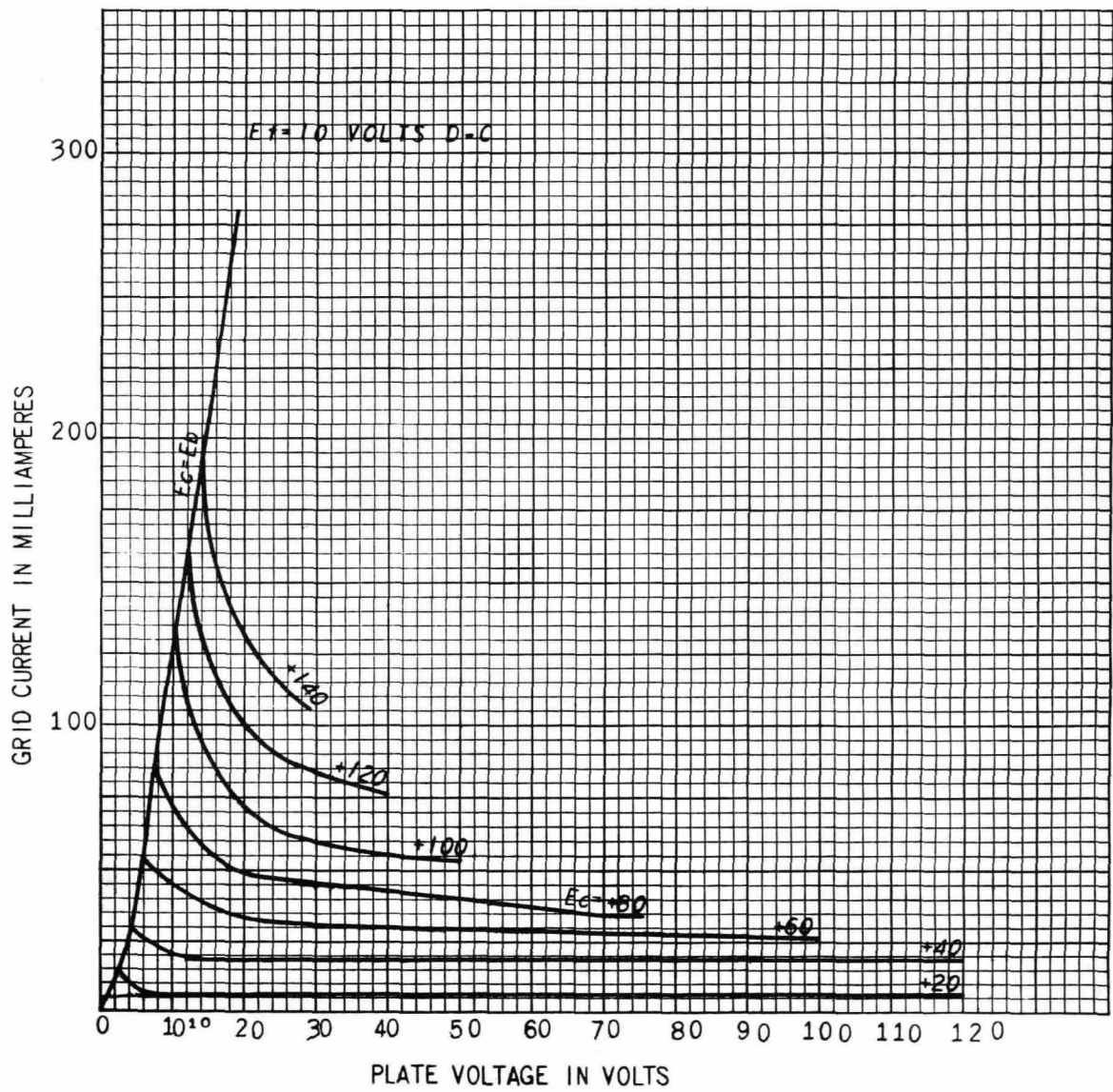
GL-146 can be operated at maximum ratings in all classes of service at frequencies as high as 15 megacycles. The tube may be operated at higher frequencies provided the maximum values of plate voltage and power input are reduced as the frequency is raised. (Other maximum ratings are the same as shown under TECHNICAL INFORMATION.) The tabulation below shows the highest percentage of maximum plate voltage and power input that can be used up to 60 megacycles for the various classes of service. Special attention should be given to adequate ventilation of the bulb at these frequencies.

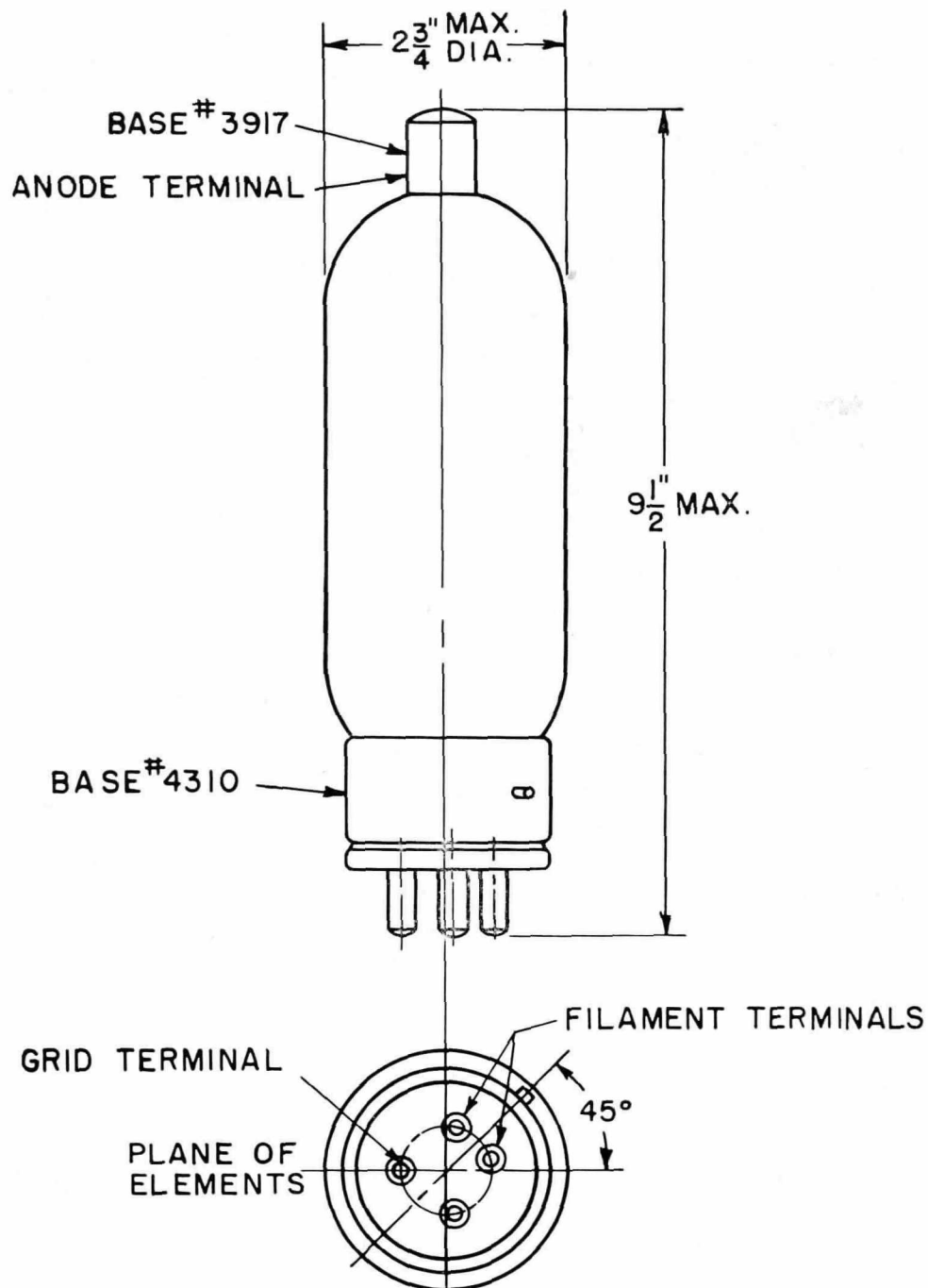
Frequency	15	30	60 megacycles
Maximum permissible percentage of Maximum			
Rated plate voltage and plate input:			
Class B telephony	100	85	69 per cent
Class C { telephony, plate-modulated	100	75	50 per cent
{ telegraphy	100	75	50 per cent

GL-146 AVERAGE PLATE CHARACTERISTICS



GL-146 PLATE-GRID TRANSFER CHARACTERISTICS





GL-146 OUTLINE

Electronics Department
GENERAL ELECTRIC
Schenectady, N. Y.