



ML-279A

ML-379A

DESCRIPTION AND RATINGS

DESCRIPTION

The ML-279A and ML-379A are three-electrode tubes designed for use as modulators, amplifiers, or oscillators in radio-transmitting service. The cathode for each type is a thoriated-tungsten filament. Each tube is air cooled and its anode is capable of dissipating 1.2 kW. Maximum ratings of 3 kVdc and 800 milliamperes apply at frequencies up to 20 Mc; operation at 40 Mc is permissible with plate voltage reduced to 1.5 kVdc.

The ML-279A and ML-379A embody all the techniques and skills that have been inherently a part of Machlett Laboratories, Inc., since 1897. All parts are thoroughly processed by special Machlett techniques, which prevent contamination and assure complete and permanent outgassing. The tube is exhausted by a straight-line, high-voltage process assuring the same high standards as characterize the Machlett line of high- and super-voltage x-ray tubes.

GENERAL CHARACTERISTICS

Electrical

Filament Voltage	10 volts
Filament Current at 10 Volts	21.0 amperes
Amplification Factor	10
Grid-Plate Transconductance	5000 μ Mhos
Interelectrode Capacitances	
Grid-Plate	18 uuf
Grid-Filament	15 uuf
Plate-Filament	7 uuf

Mechanical

Mounting Position	Vertical
Type of Cooling	Convection

MAXIMUM RATINGS

Direct Plate Voltage	3000 volts
Direct Plate Current	800 milliamperes
Plate Dissipation	1200 watts
Direct Grid Current	100 milliamperes
R. F. Grid Current	15 amperes
Frequency	20 megacycles

The above are maximum ratings which do not apply simultaneously but depend on the type of service specified below.

TYPICAL OPERATING CONDITIONS

Class A Audio Amplifier or Modulator

Direct Plate Voltage	2500	2000 volts
Grid Bias	-170	-110 volts
Direct Plate Current	300	375 milliamperes
Plate Dissipation	750	750 watts
Load Impedance	4500	2000 ohms
Undistorted Output	155	85 watts

Class B Audio Amplifier or Modulator

(for balanced 2 tube circuit)

Direct Plate Voltage	2500	2000 volts
Grid Bias	-200	-150 volts
Direct Plate Current, per tube		
No drive	150	110 milliamperes
Maximum drive	800	800 milliamperes
Plate Dissipation	900	720 watts
Load Resistance, plate-to-plate	2800	2240 ohms
Load Resistance, per tube	700	560 ohms
Approximate Maximum Output—2 tubes	2200	1760 watts
Recommended Power for Driving Stage	100	100 watts

Class B R-F Amplifier

Direct Plate Voltage	3000	2500 volts
Direct Plate Current	600	720 milliamperes
Grid Bias	-325	-275 volts
Approximate Carrier Watts for use with 100% modulation	600	600 watts

Class C R-F Oscillator or Power Amplifier—Unmodulated

Direct Plate Voltage	3000	2500 volts
Direct Plate Current	800	800 milliamperes
Grid Bias	-500 to -650	-400 to -550 volts
Direct Grid Current	150	100 milliamperes
Nominal Power Output	1600	1300 watts
Plate Dissipation	800	700 watts

Class C R-F Amplifier—Plate Modulated

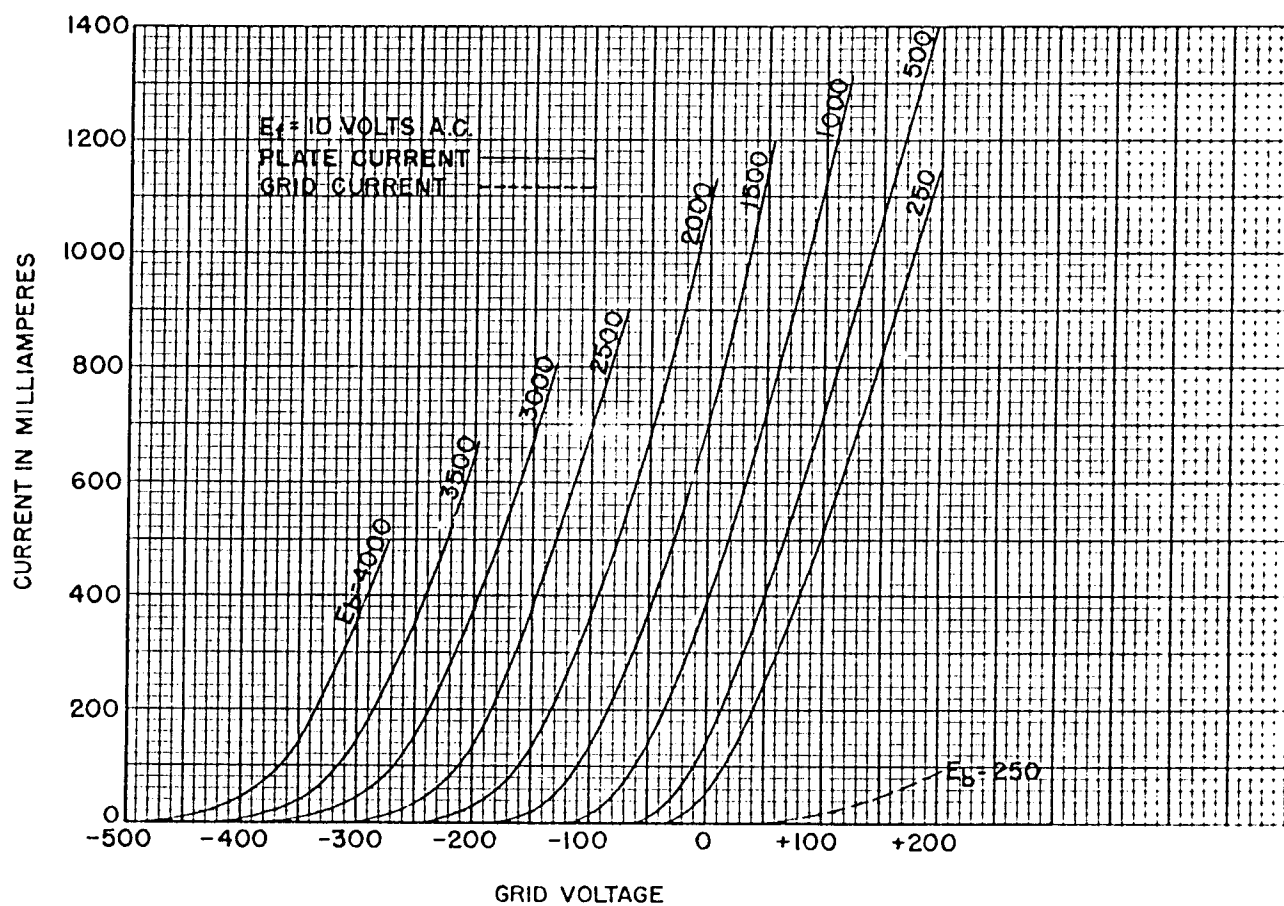
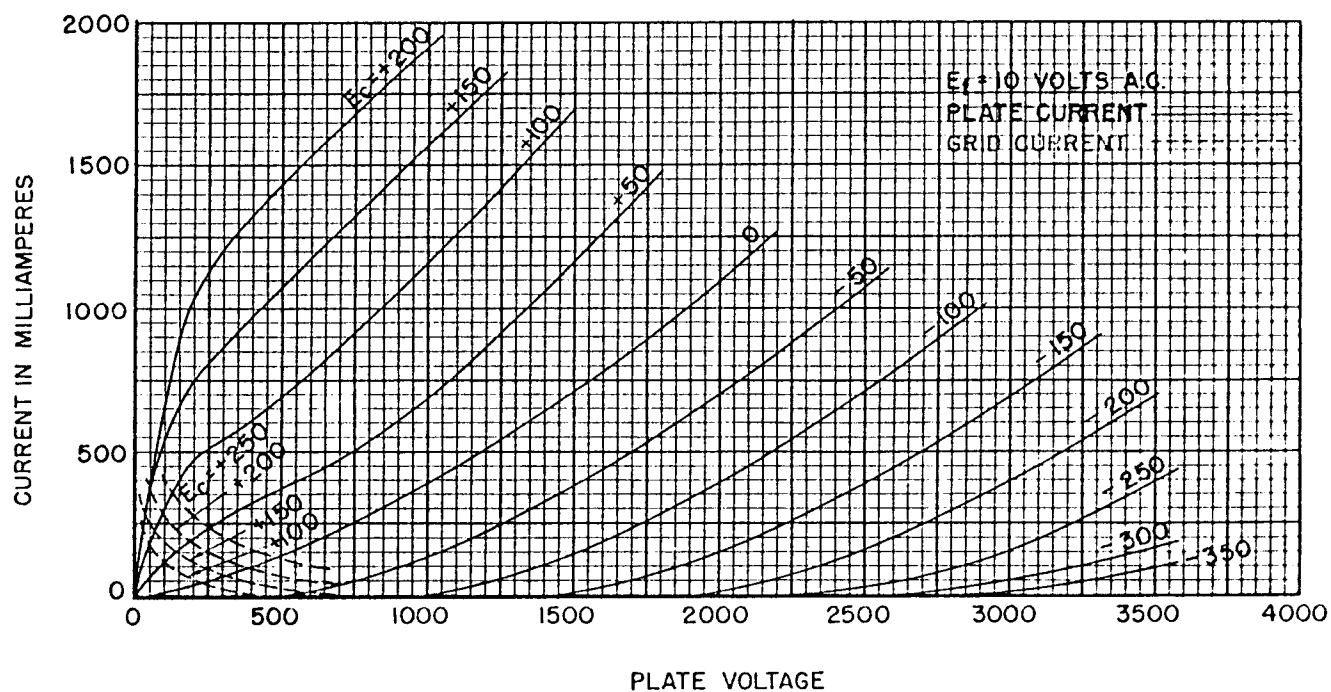
Direct Plate Voltage	2250	1750 volts
Direct Plate Current	600	700 milliamperes
Grid Bias	-450	-360 volts
Direct Grid Current	100	100 milliamperes
Nominal Carrier Power Output for use with 100% modulation	900	830 watts

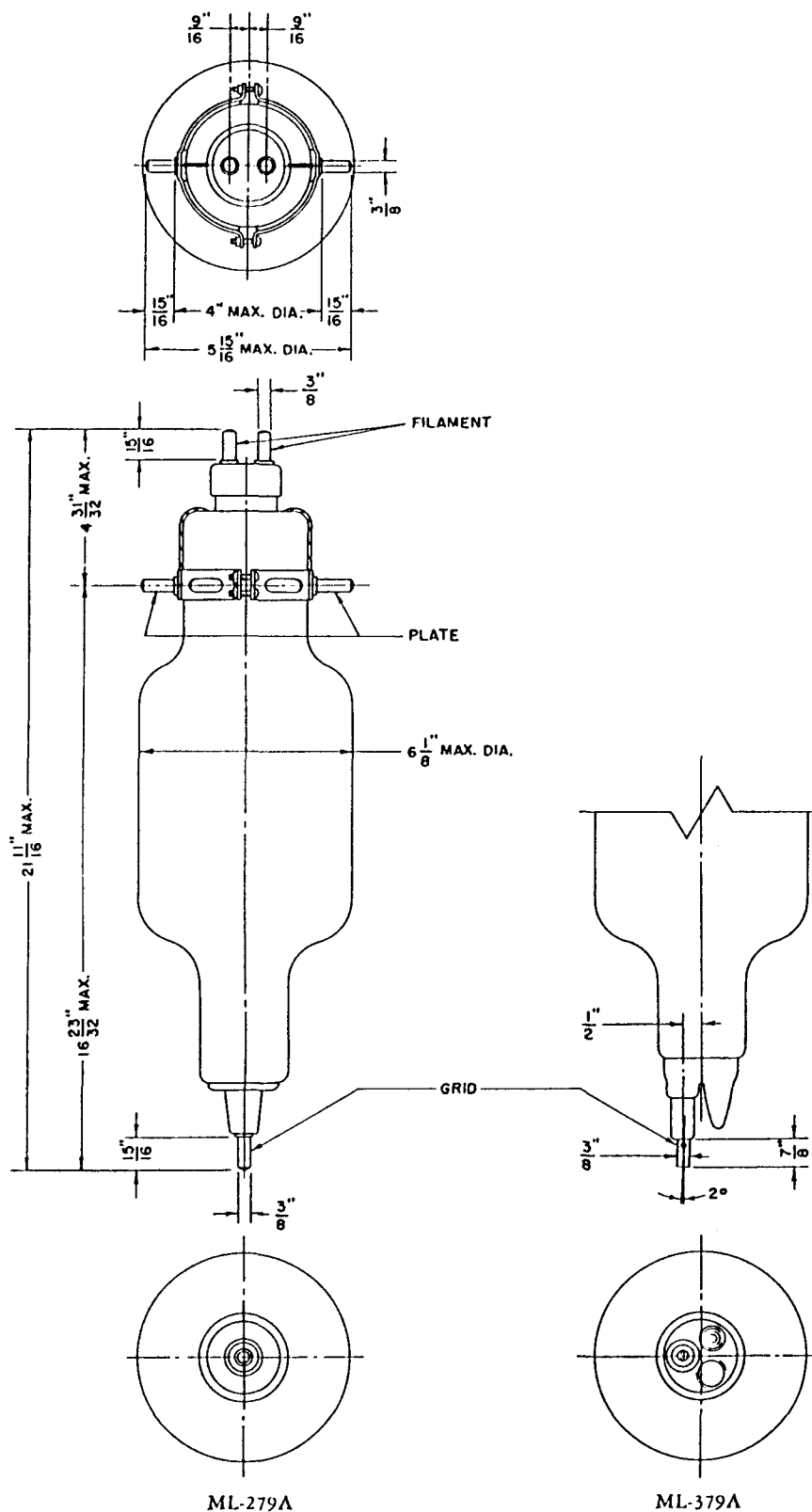
APPLICATION NOTES

Maximum ratings apply at frequencies of 20 megacycles and less. The maximum plate voltage for the upper frequency limit of 40 megacycles is 1500 volts. The maximum plate voltage for frequencies between 20 and 40 megacycles should

be proportionately reduced.

A free circulation of air must be provided to insure adequate cooling of the glass during operation.





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Dimensions—ML-279A and ML-379A

MACHLETT LABORATORIES, INC.

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