

ELECTRONIC TUBE REFERENCE

379A

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Machlett air-cooled thoriated-tungsten transmitting triode for modulator, amplifier, and oscillator service. Its approximately 750 W plate dissipation and 2.5 kV plate rating support substantial RF output and high-power audio modulation.

GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | —             |
| NOMINAL HEATER      | 10 V / 21 A       | PARALLEL HEATER      | — / —         |
| HEATING             | Direct            | SERIES OPERATION     | Not specified |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

SECTION RATINGS

|                                                                                                                            |         |
|----------------------------------------------------------------------------------------------------------------------------|---------|
| SECTION1 Triode                                                                                                            |         |
| TRANSCONDUCTANCE                                                                                                           | 0.005 S |
| AMPLIFICATION FACTOR                                                                                                       | 10      |
| MAXIMUM PLATE VOLTAGE                                                                                                      | 2500 V  |
| MAXIMUM PLATE DISSIPATION                                                                                                  | 750 W   |
| Promoted fields populated from explicitly published ratings/characteristics; service-specific data retained as parameters. |         |

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 special Machlett techniques, which prevent contamination and and 800 milliamperes apply at frequencies up to 20 Mc; operated by 2 straight-line, high-voltage process assuring the operation at 40

Mc is permissible with plate voltage reduced to same high standards as characterize the Machlett line of high.

## SOURCE OPERATING CONDITIONS

## 1971 Machlette Laboratories

Published test conditions and operating points. Values on this page are preserved as reported by this source.

## 1971 MACHLETTE LABORATORIES

## Section 1 · Triode

| OTHER                                                     |                 |                                                                                                                            |
|-----------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| PARAMETER                                                 | PUBLISHED VALUE | CONDITION / NOTE                                                                                                           |
| and [1]                                                   | 800 A           | and 800 milliamperes apply at frequencies up to 20 Mc; oper- hausted by 2 straight-line, high-voltage process assuring the |
| and [2]                                                   | 20 A            | and 800 milliamperes apply at frequencies up to 20 Mc; oper- hausted by 2 straight-line, high-voltage process assuring the |
| and [3]                                                   | 2 A             | and 800 milliamperes apply at frequencies up to 20 Mc; oper- hausted by 2 straight-line, high-voltage process assuring the |
| ation at                                                  | 40 mA           | ation at 40 Mc is permissible with plate voltage reduced to same high standards as characterize the Machlett line of high. |
| Published value                                           | 1.5             | 1.5 kVdec. and super-voltage x-ray tubes.                                                                                  |
| Filament Current at [1]                                   | 10 V            | Filament Current at 10 Volts 21.0 ampceres                                                                                 |
| Filament Current at [2]                                   | 21 V            | Filament Current at 10 Volts 21.0 ampceres                                                                                 |
| Amplification Factor                                      | 10              | Amplification Factor ..... 10                                                                                              |
| Grid-Plate Transconductance                               | 5000 uS         | Grid-Plate Transconductance 5000 uMhos                                                                                     |
| Direct Plate CUrrent<br>cvoiceoieiecrieieeseeeeevnaesssee | 800 A           | Direct Plate CUrrent<br>cvoiceoieiecrieieeseeeeevnaesssee<br>800 milliamperes                                              |
| Direct Plate Voltage oo [1]                               | 2500 V          | Direct Plate Voltage oo<br>..... 2500 2000 volts                                                                           |

| PARAMETER                               | PUBLISHED VALUE | CONDITION / NOTE                                         |
|-----------------------------------------|-----------------|----------------------------------------------------------|
| Direct Plate Voltage oo [2]             | <b>2000 V</b>   | Direct Plate Voltage oo<br>..... 2500 2000 volts         |
| Direct Plate Current [1]                | <b>300 A</b>    | Direct Plate Current 300 375<br>milliamperes             |
| Direct Plate Current [2]                | <b>375 A</b>    | Direct Plate Current 300 375<br>milliamperes             |
| Plate Dissipation [1]                   | <b>750 W</b>    | Plate Dissipation ... 750 750 watts                      |
| Plate Dissipation [2]                   | <b>750 W</b>    | Plate Dissipation ... 750 750 watts                      |
| Undistorted Output [1]                  | <b>155</b>      | Undistorted Output 155 85 watls                          |
| Undistorted Output [2]                  | <b>85</b>       | Undistorted Output 155 85 watls                          |
| Dircet Plate Voltage [1]                | <b>2500 V</b>   | Dircet Plate Voltage 2500 2000 volts                     |
| Dircet Plate Voltage [2]                | <b>2000 V</b>   | Dircet Plate Voltage 2500 2000 volts                     |
| Plate Dissipation [1]                   | <b>9200 W</b>   | Plate Dissipation 9200 720 watts                         |
| Plate Dissipation [2]                   | <b>720 W</b>    | Plate Dissipation 9200 720 watts                         |
| Load Resistance, plate-to-plate [1]     | <b>2800</b>     | Load Resistance, plate-to-plate ... 2800<br>2240 oluns   |
| Load Resistance, plate-to-plate [2]     | <b>2240</b>     | Load Resistance, plate-to-plate ... 2800<br>2240 oluns   |
| Load Resistance, per tube [1]           | <b>700 ohm</b>  | Load Resistance, per tube 700 560<br>ohms                |
| Load Resistance, per tube [2]           | <b>560 ohm</b>  | Load Resistance, per tube 700 560<br>ohms                |
| Recommended Power for Driving Stage [1] | <b>100 W</b>    | Recommended Power for Driving<br>Stage ... 100 100 watts |
| Recommended Power for Driving Stage [2] | <b>100 W</b>    | Recommended Power for Driving<br>Stage ... 100 100 watts |
| Dircat Plate Current G00                | <b>720 A</b>    | Dircat Plate Current G00 720<br>milliamperes             |
| Dircct Plate Current .o [1]             | <b>800 A</b>    | Dircct Plate Current .o 800 800<br>milliamperes          |
| Dircct Plate Current .o [2]             | <b>800 A</b>    | Dircct Plate Current .o 800 800<br>milliamperes          |
| Dircet Grid Current [1]                 | <b>150 A</b>    | Dircet Grid Current 150 100<br>milliamperes              |
| Dircet Grid Current [2]                 | <b>100 A</b>    | Dircet Grid Current 150 100<br>milliamperes              |
| Nominal Power Output [1]                | <b>1600 W</b>   | Nominal Power Output ... 1600 1300<br>watts              |

| PARAMETER                                     | PUBLISHED VALUE | CONDITION / NOTE                                                                                   |
|-----------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------|
| Nominal Power Output [2]                      | <b>1300 W</b>   | Nominal Power Output ... 1600 1300 watts                                                           |
| Direct Plate Voltage [1]                      | <b>2250 V</b>   | Direct Plate Voltage 2250 1750 volts                                                               |
| Direct Plate Voltage [2]                      | <b>1750 V</b>   | Direct Plate Voltage 2250 1750 volts                                                               |
| Direct Plate Current [1]                      | <b>600 A</b>    | Direct Plate Current . 600 700 miliamperes                                                         |
| Direct Plate Current [2]                      | <b>700 A</b>    | Direct Plate Current . 600 700 miliamperes                                                         |
| Direct Grid Current [1]                       | <b>100 A</b>    | Direct Grid Current 100 100 milliamperes                                                           |
| Direct Grid Current [2]                       | <b>100 A</b>    | Direct Grid Current 100 100 milliamperes                                                           |
| Nominal Carrier Power Output for use with [1] | <b>1099 W</b>   | Nominal Carrier Power Output for use with 1099 modulation<br>..... Y00 830 watts                   |
| Nominal Carrier Power Output for use with [2] | <b>0 W</b>      | Nominal Carrier Power Output for use with 1099 modulation<br>..... Y00 830 watts                   |
| Nominal Carrier Power Output for use with [3] | <b>830 W</b>    | Nominal Carrier Power Output for use with 1099 modulation<br>..... Y00 830 watts                   |
| voltage for frequencics between [1]           | <b>20 MHz</b>   | voltage for frequencics between 20 and 10 megacycles should cooling of the glass during operation. |
| voltage for frequencics between [2]           | <b>10 MHz</b>   | voltage for frequencics between 20 and 10 megacycles should cooling of the glass during operation. |