



## ELECTRONIC TUBE REFERENCE

## YL1060

Power - Tetrode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TETRODE-TETRODE

Radiation-cooled VHF double tetrode for RF amplification, oscillation, multiplication, and modulation. The paired power sections support push-pull Class C operation around 175 MHz, with published output reaching roughly 180 W under intermittent service conditions.

## GENERAL CHARACTERISTICS

|                     |                   |                      |               |
|---------------------|-------------------|----------------------|---------------|
| BASE DESIGNATION    | —                 | BASE PINS            | 7             |
| NOMINAL HEATER      | 12.6 V / 900 mA   | PARALLEL HEATER      | 6.3 V / 1.8 A |
| HEATING             | Indirect          | SERIES OPERATION     | Capable       |
| CATHODE ARRANGEMENT | Separate cathodes | SECTION CONSTRUCTION | Similar       |

## SECTION RATINGS

|                                                            |          |
|------------------------------------------------------------|----------|
| SECTION1 Tetrode                                           |          |
| TRANSCONDUCTANCE                                           | 0.0045 S |
| MAXIMUM PLATE VOLTAGE                                      | 1000 V   |
| MAXIMUM SCREEN VOLTAGE                                     | 360 V    |
| MAXIMUM PLATE DISSIPATION                                  | 34 W     |
| MAXIMUM SCREEN DISSIPATION                                 | 8 W      |
| Representative of two identical RF-power tetrode sections. |          |

| SECTION2 Tetrode           |          |
|----------------------------|----------|
| TRANSCONDUCTANCE           | 0.0045 S |
| MAXIMUM PLATE VOLTAGE      | 1000 V   |
| MAXIMUM SCREEN VOLTAGE     | 360 V    |
| MAXIMUM PLATE DISSIPATION  | 34 W     |
| MAXIMUM SCREEN DISSIPATION | 8 W      |

The Mullard YL1060 is a radiation-cooled VHF double tetrode for amplifier, oscillator, frequency multiplier and modulator service.

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1963 Mullard

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

1963 MULLARD

## Section 1 · Tetrode

| OTHER                       |                 |                                |
|-----------------------------|-----------------|--------------------------------|
| PARAMETER                   | PUBLISHED VALUE | CONDITION / NOTE               |
| Maximum Operating Frequency | 175 MHz         | —                              |
| Maximum Plate Voltage       | 1000 V          | —                              |
| Maximum Plate Dissipation   | 34 W            | EachSection                    |
| RF Output Power             | 180 W           | RepresentativePublishedMaximum |
| RF Output Power             | 150 W           | ClassC; CCS; 175MHz            |
| RF Output Power             | 180 W           | ClassC; ICAS; 175MHz           |
| Plate Voltage               | 1000 V          | ClassC; 175MHz                 |
| Plate Current               | 120 mA          | EachSection; ClassC; ICAS      |

## SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

# 1999 Philips E-Z

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

1999 PHILIPS E-Z

## Section 1 · Tetrode

| OTHER                 |                 |                  |
|-----------------------|-----------------|------------------|
| PARAMETER             | PUBLISHED VALUE | CONDITION / NOTE |
| Heater voltage Ve [1] | 6.3 V           | —                |
| Heater voltage Ve [2] | 12.6 V          | —                |
| Heater current Ip [1] | 1.8 A           | —                |
| Heater current Ip [2] | 900 mA          | —                |

| PARAMETER                                    | PUBLISHED VALUE | CONDITION / NOTE |
|----------------------------------------------|-----------------|------------------|
| When the tube                                | 1 s             | —                |
| Temperature of base pin seals = max.,        | 180 °C          | —                |
| Anode voltage $V_a = \max$                   | 1000 V          | —                |
| Anode current $I_g = \max$ . 2x1             | 10 mA           | —                |
| Anode dissipation $W_y = \max$ . 2x3         | 0 W             | —                |
| Anode input power $W_{ia} = \max$ . 2x1      | 0 W             | —                |
| Grids No.2 voltage $V_{gz,gé} = \max$ ,      | 300 V           | —                |
| Grids No.2 dissipation $w_{82:82'} = \max$   | 7 W             | —                |
| voltage 'V81 = max                           | 175 V           | —                |
| Heater to cathode voltage $V_i = \max$ ,     | 100 V           | —                |
| Frequency $r = 175$                          | 175 Mc/s        | —                |
| Anode voltage $V_g = 1000$                   | 900 V           | —                |
| Grids No.2 voltage $V_{go,g0'} = 230$        | 245 V           | —                |
| Anode current $I = 2 \times 100$ 2x1         | 10 mA           | —                |
| Grids No.2 current 182,85 = 11,2             | 12.5 mA         | —                |
| Grids No.t! current $I_{g,,gf} = 5.7$        | 5.9 mA          | —                |
| Anode linput power $W_{iy} = 200$            | 198 W           | —                |
| Anode dissipation $W_{ag} = 2 \times 27$ 2x2 | 5 W             | —                |
| Grids No.2 dissipation $W_{go,g0'} = 2.5$    | 3 W             | —                |
| Driver output power $W_{ar} = 3.5$           | 3.5 W           | —                |
| Output power $\%o = 146$                     | 150 W           | —                |
| Useful power in the load L7} = 125           | 132 W           | —                |
| Anode voltage $V_a = \max$                   | 1000 V          | —                |
| Anode current $I = \max$ . 2x1               | 20 mA           | —                |

| PARAMETER                                         | PUBLISHED VALUE | CONDITION / NOTE |
|---------------------------------------------------|-----------------|------------------|
| Anode dissipation $W_{ag} = \max.$<br>2x3         | 4 W             | —                |
| Anode input power $\mathcal{P}_y, = \max,$<br>2x1 | 20 W            | —                |
| Erids No.2 voltage . $V_{gz,sé}$<br>$= \max,$     | 300 V           | —                |
| Srids No.2 dissipation<br>$W_{gzvgf} = \max$      | 8 W             | —                |
| voltage $-V_{g1} \max$                            | 175 V           | —                |
| Heater to cathode voltage $V_e$<br>$= \max,$      | 100 V           | —                |
| Frequency $T = 175$                               | 175 Mc/s        | —                |
| Anode voltage $V_a = 1000$                        | 900 V           | —                |
| Grids No.2 voltage $V_{SQ:SZ'}$<br>260            | 260 V           | —                |
| Grid No.1 voltage $V_{S1}$                        | -85 -85 V       | —                |
| Common grids No.1 resistor<br>$R_{51,51'} 15$     | 15 kQ           | —                |
| Anode current $I_g = 2X120$ 2x1                   | 20 mA           | —                |
| Grids No.2 current $I_{gs,85'}$ =<br>16.5         | 17 mA           | —                |
| Grids No.1 current $I_{gi,81'}$ =<br>5.7          | 5.7 mA          | —                |
| Anode input power $W_{ig} = 240$                  | 216 W           | —                |
| Anode dissipation $V_a = 2x30$<br>2x2             | 5 W             | —                |
| Grids No.2 dissipation<br>$W_{52,82'} = 4.3$      | 4.5 W           | —                |
| Driver output power $H_{ar} =$<br>3.5             | 3.5 W           | —                |
| Output power $W_o$ 180                            | 166 W           | —                |
| Useful power in the load $W =$<br>163             | 147 W           | —                |
| Anode voltage $V_a = \max.$ 800                   | 800 V           | —                |
| Anode current $I_a = \max.$ 2x90<br>2x1           | 0 mA            | —                |
| Anode dissipation $W_a = \max.$<br>2x21 2x2       | 3.5 W           | —                |

| PARAMETER                                              | PUBLISHED VALUE | CONDITION / NOTE |
|--------------------------------------------------------|-----------------|------------------|
| Anode input power $W_{iz} = \text{max.}, 140$          | 160 W           | —                |
| Grids No.2 dissipation $W_{52,82}' = \text{max. } 5.0$ | 5.5 W           | —                |
| voltage $V_g = \text{max. } 175$                       | 175 V           | —                |
| Heater to cathode voltage $V_{kf} = \text{max. } 100$  | 100 V           | —                |
| Frequency $f = 175$                                    | 175 Mc/s        | —                |
| Anode voltage $V_g = 750$                              | 800 V           | —                |
| Grids No.2 voltage $V_{82.g2}' = 250$                  | 225 V           | —                |
| Grid No.1 voltage $V_{g1} = -66$                       | ~-75 V          | —                |
| Anode current $I_n = 2 \times 90 \ 2 \times 1$         | 0 mA            | —                |
| Grids No.2 current $I_{52,52}' = 10.2$                 | 8.8 mA          | —                |
| Anode input power $W_{ig} = 135$                       | 160 W           | —                |
| Anode dissipation $W_g = 2 \times 19 \ 2 \times 2$     | 1 W             | —                |
| Grids No.2 dissipation $g_y .85 = 2.6$                 | 2 W             | —                |
| Driver output power $W_r = 3.4$                        | 3 W             | —                |
| Output power $P_o = 97$                                | 122 W           | —                |
| Useful power in the load $W = 85$                      | 107 W           | —                |
| Modulation power $W_{mod} = 68$                        | 80 W            | —                |
| $h_{lozrez} / 1$                                       | 9 %             | —                |
| $\eta_{lozisz} 7$                                      | 69 %            | —                |
| $7201450 /$                                            | 3512 ff         | —                |
| $g,$                                                   | 250 V           | —                |
| 200 400 600                                            | 800 V           | —                |
| $V_g, V_{92}$                                          | 250 V           | —                |
| $20 \ \text{¥} \ \text{smssssaassusm} \{64$            | 14 A            | —                |
| $20 \ \text{¥} \ \text{smssssaassusm} \{64$            | 4 A             | —                |
| 0 200 400 600                                          | 800 V           | —                |
| $'?Q\} \backslash \backslash$                          | 0 s             | —                |

| PARAMETER                                 | PUBLISHED VALUE | CONDITION / NOTE |
|-------------------------------------------|-----------------|------------------|
| 1 T F                                     | 7 w             | —                |
| Y,                                        | 200 V           | —                |
| S35                                       | 400 mA          | —                |
| ot PT                                     | 300 mA          | —                |
| Ban 014                                   | 4 A             | —                |
| 20 02411 LT SESAESANNEENEBAR<br>NN N __54 | 3 A             | —                |
| 7 B 1962.12.12                            | 8 C             | —                |

| CAPACITANCE               |                 |                  |
|---------------------------|-----------------|------------------|
| PARAMETER                 | PUBLISHED VALUE | CONDITION / NOTE |
| ments except grid No.1 Ca | 3.2 pF          | —                |
| elements except anode Cg1 | 10.5 pF         | —                |
| Anode to grid No.1 Cagq   | < 0.09 PF       | —                |

| CHARACTERISTIC       |                 |                  |
|----------------------|-----------------|------------------|
| PARAMETER            | PUBLISHED VALUE | CONDITION / NOTE |
| Mutual conductance S | 4.5 mA          | —                |