

**QUICK HEATING
DOUBLE TETRODE**
**YL1020
QQZ03-20**
Typical operating conditions

| | | | |
|---------------------|----------------|----------------|------|
| f_{out} | 200 | 460 | Mc/s |
| V_a | 300 | 300 | V |
| V_{g2} | 250 | 250 | V |
| $-V_{g1}$ | 175 | 175 | V |
| $V_{in(pk)}$ | 2×205 | 2×205 | V |
| I_a | 2×45 | 2×45 | mA |
| I_{g2} | 2×4.0 | 2×3.5 | mA |
| I_{g1} | 2×3.0 | 2×2.5 | mA |
| P_{load} (driver) | 3.0 | 5.0 | W |
| η_a | 33 | 26 | % |
| P_a | 2×9.0 | 2×10 | W |
| P_{out} | 9.0 | 7.0 | W |
| P_{load} | 7.0 | 5.5 | W |

OPERATING NOTE

I_{g1} and I_{g2} will vary from valve to valve, hence the use of fixed resistors R_{g1} and R_{g2} will result in variation of input and output power. It is therefore recommended that R_{g2} be made adjustable.

CATHODE

Quick heating directly heated filament. 70% P_{out} in less than 0.5 second. ←

| | | |
|------------------------|------|---|
| * V_f d.c. or r.m.s. | 1.6 | V |
| I_f | 4.25 | A |

Frequency of filament supply

| | | |
|-------------|---------|-----|
| Sine wave | max 200 | c/s |
| Square wave | Any | |

*The filament has been designed to accept temporary fluctuations of supply voltage of $\pm 15\%$.

CAPACITANCES

| | | |
|---------------------------------------|-----|----|
| C_{out} (two sections in push-pull) | 1.5 | pF |
| C_{in} (two sections in push-pull) | 4.0 | pF |

Internally neutralised for push-pull operation.

CHARACTERISTICS (measured at $V_a = 300V$, $V_{g2} = 250V$, $I_a = 40mA$)

| | | |
|---------------|-----|------|
| g_m | 4.0 | mA/V |
| μ_{g1-g2} | 9.0 | |

COOLING

Radiation and Convection cooled

Maximum temperatures ←

| | | |
|------------|-----|----|
| Base-seals | 180 | °C |
| Anode seal | 250 | °C |
| Bulb | 250 | °C |

Anode connectors providing a high degree of heat transfer by radiation or conduction should be used.

YLI020 QQZ03-20

QUICK HEATING
DOUBLE TETRODE

MOUNTING POSITION

ANY (but see G.O.R's)

PHYSICAL DATA

| | | |
|---------------------------|-------|----|
| Weight of valve | { 1.8 | oz |
| | { 50 | g |
| Weight of valve in carton | { 9.0 | oz |
| | { 250 | g |

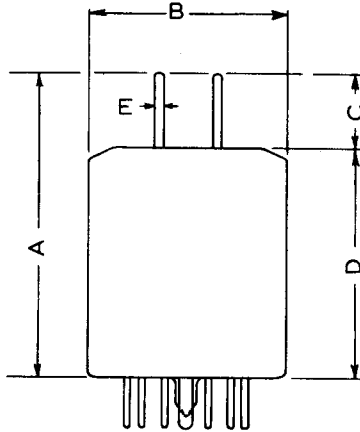
ACCESSORIES

| | |
|-------------|-------|
| Anode clips | 40623 |
| Socket | 40202 |

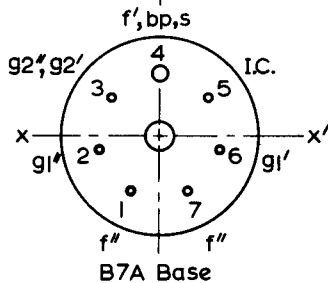
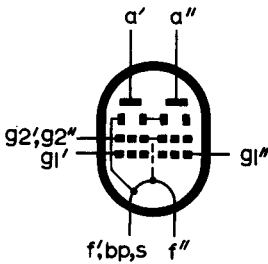
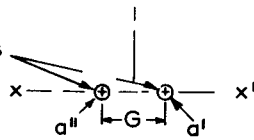
DIMENSIONS

| | <i>Inches</i> | <i>Millimetres</i> | |
|---|-------------------|--------------------|------|
| A | 2.874 | 73 | max. |
| B | 1.811 | 46 | max. |
| C | 0.650 ± 0.059 | 16.5 ± 1.5 | |
| D | 2.165 | 55 | max. |
| E | 0.079 ± 0.004 | 2.0 ± 0.1 | |
| F | 0.098 ± 0.001 | 2.5 ± 0.03 | |
| G | 0.551 ± 0.001 | 14 ± 0.03 | |

Inch dimensions derived from original millimetre dimensions.



Location of
anode pins
within circles
of dia F



Contacts 1 and 7 should be
strapped together externally
to reduce the effective
contact resistance .

[B1571]