

TENTATIVE DATA

QUICK REFERENCE DATA

External anode triode of ceramic-metal construction, water cooled by means of an integral water cooler, intended for use as a class 'C' industrial oscillator.

| | | |
|-------------------------------|-----|-----|
| f | 30 | MHz |
| P_{out} (less P_{drive}) | 60 | kW |
| f max. | 30 | MHz |
| V_a max. | 9.6 | kV |
| p_a max. | 40 | kW |

To be read in conjunction with
GENERAL OPERATIONAL RECOMMENDATIONS - TRANSMITTING VALVES
INDUSTRIAL OSCILLATOR, CLASS 'C'

OPERATING CONDITIONS

| | | |
|---------------------------------------|------|----------|
| f | 30 | MHz |
| P_{out} | 62.3 | kW |
| P_{out} (less P_{drive}) | 60 | kW |
| P_{load} | 55 | kW |
| Duty factor | 1.0 | |
| η_a | 78 | % |
| V_a | 8.0 | kV |
| I_a | 10 | A |
| $-V_g$ | 675 | V |
| $I_{g \text{ on load}}$ | 2.25 | A |
| off load | 3.3 | A |
| R_{g-f} | 300 | Ω |
| Feedback ratio $v_{in(pk)}/v_{a(pk)}$ | 0.14 | |
| P_{drive} | 2.3 | kW |
| p_a | 17.7 | kW |

RATINGS (ABSOLUTE MAXIMUM SYSTEM)

| | | |
|--------------------|------|------------|
| f max. | 30 | MHz |
| V_a max. | 9.6 | kV |
| P_{in} max. | 96 | kW |
| $-V_g$ max. | 1.5 | kV |
| I_g max. on load | 2.5 | A |
| off load | 3.5 | A |
| I_k max. | 14.5 | A |
| $i_{k(pk)}$ max. | 68 | A |
| p_a max. | 40 | kW |
| R_{g-f} max. | 10 | k Ω |

CATHODE

Directly heated, thoriated tungsten

| | | |
|-----------------------------|--------|----------|
| $*V_f$ | 8.4 | V |
| I_f | 235 | A |
| $i_{f(pk)}$ max. (starting) | 1.0 | kA |
| r_f (cold) | 0.0039 | Ω |

*The filament has been designed to accept temporary variations in supply voltage of +5% and -10%.

CAPACITANCES

| | | |
|-----------|-----|----|
| c_{a-g} | 45 | pF |
| c_{a-f} | 1.7 | pF |
| c_{g-f} | 100 | pF |

CHARACTERISTICS (measured at $V_a = 8.0$ kV, $I_a = 6.0$ A)

| | | |
|-------|-----|------|
| g_m | 110 | mA/V |
| μ | 31 | |

MOUNTING POSITION

Vertical, anode up or down

COOLING

Anode - water cooled with integral cooler

Seals - low velocity air flow at frequencies > 4MHz

Temperatures

| | | |
|---------------------|-----|----|
| Anode seal max. | 200 | °C |
| Grid seal max. | 200 | °C |
| Filament seals max. | 200 | °C |
| Envelope max. | 200 | °C |
| Water inlet max. | 50 | °C |

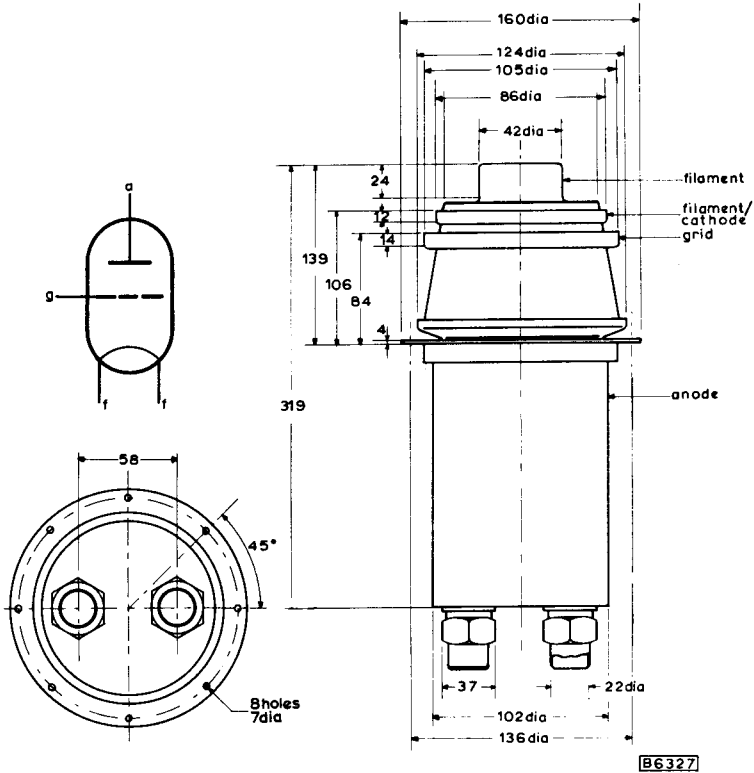
WATER COOLING CHARACTERISTICS

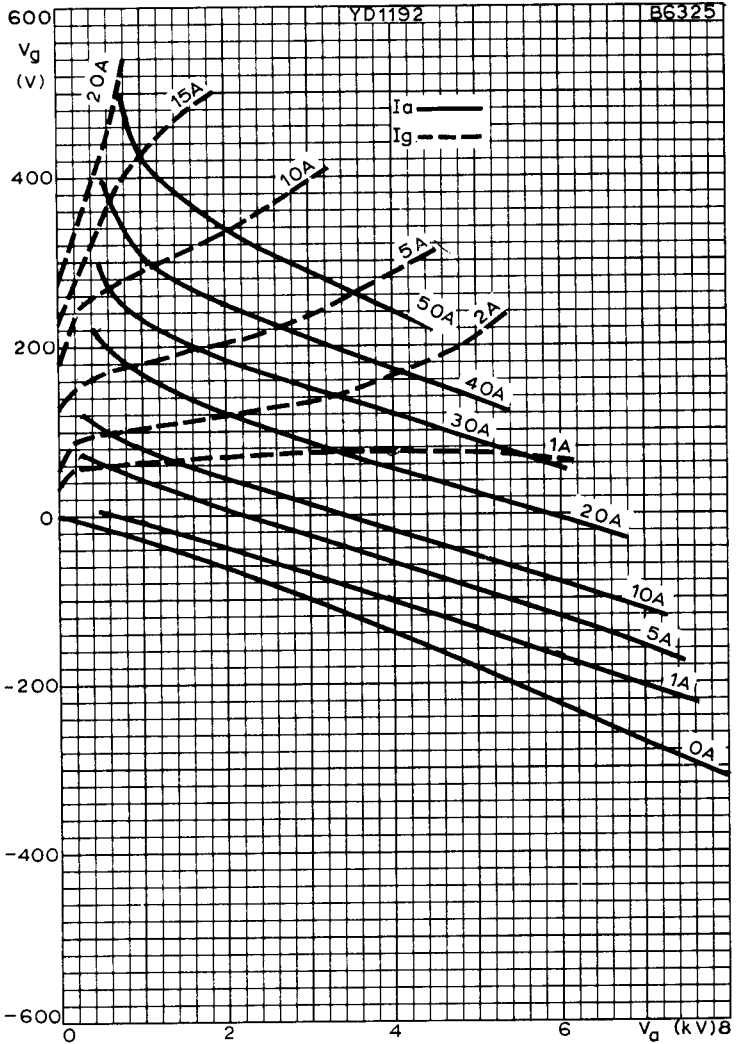
| Anode Dissipation (kW) | Inlet Temperature (°C) | Rate of flow (l/min) | Inlet Pressure (Atm) | Outlet Temperature (°C) |
|------------------------------|------------------------------|----------------------------|----------------------------|-------------------------------|
| 40 | 20 | 30 | 0.7 | 40 |

ACCESSORIES

| | |
|---|-----------|
| Grid connector ($f \leq 4.0\text{MHz}$) | 40707 |
| Filament connectors (both types required) | 40705 |
| | and 40706 |
| Filament cables | 40718 |
| | and 40719 |

OUTLINE DRAWING OF YD1192





CONSTANT CURRENT CHARACTERISTICS