

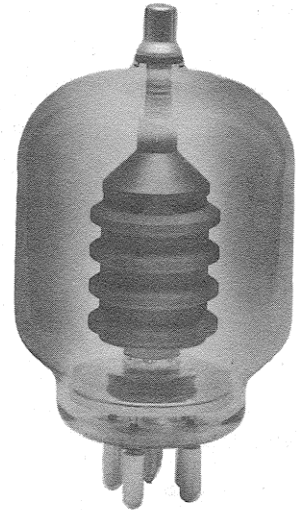


TH 3T1100 TRIODE

The TH 3T 1100 is a triode cooled by natural or forced air operating at full load up to 60 MHz and at reduced load up to 120 MHz.

Its high thermal inertia, radiation cooled anode can dissipate up to 800 W.

This tube of rugged structure is especially suited for industrial R.F. generators.



GENERAL CHARACTERISTICS

Electrical

| | | |
|---|--------------------|------|
| Type of cathode | thoriated tungsten | |
| Heating | direct | |
| Filament voltage | 7.5 ± 5 % | V |
| Filament current, approx. | 18 | A |
| Maximum surge current | 80 | A |
| Interelectrode capacitances, approx : | | |
| - cathode - grid | 17 | pF |
| - grid - anode | 11 | pF |
| - anode - cathode | 0.6 | pF |
| Amplification factor, avg. | 20 | |
| Transconductance (I _a = 0.4 A) | 14 | mA/V |

Mechanical

| | |
|---|--------------------------------------|
| Operating position | vertical, anode connector up or down |
| Anode cooling | radiation cooled |
| Glass bulb maximum temperature | 250 °C |
| Electrode terminals maximum temperature | 175 °C |
| Glass bulb cooling depending on average anode dissipation : | |
| - below 400 W | natural convection (1) |
| - above 400 W | forced air : 1.5 m ³ /mn |
| Net weight | 650 g |
| Dimensions | see drawing |

(1) Provision should be made so as to permit a free circulation of the air by natural draught around the bulb which must be very clean



Accessories

| | |
|---|----------|
| Socket | TH 16039 |
| Anode connector (2) | TH 13308 |
| Fan for electrode terminals cooling | TH 14102 |

OPERATING CONDITIONS

RF POWER AMPLIFIER - TELEGRAPHY CLASS C

Maximum ratings

| | | |
|------------------------------|-------|-----|
| DC anode voltage | 5.0 | kV |
| DC grid voltage | - 800 | V |
| Peak cathode current | 5.0 | A |
| DC anode current | 700 | mA |
| DC grid current | 180 | mA |
| Anode dissipation | 0.8 | kW |
| Power input | 3.0 | kW |
| Grid dissipation | 50 | W |
| Frequency at full load | 60 | MHz |

Typical operations

| | | | | |
|---------------------------------|-------|-------|-------|----|
| DC anode voltage | 3.5 | 4.5 | 5 | kV |
| DC grid voltage | - 300 | - 400 | - 500 | V |
| Grid peak RF voltage | 460 | 550 | 680 | V |
| DC anode current | 585 | 520 | 600 | mA |
| DC grid current, approx. | 100 | 85 | 100 | mA |
| Power input | 2.05 | 2.35 | 3 | kW |
| Anode dissipation | 0.55 | 0.55 | 0.6 | kW |
| Power output, approx. (3) | 1.5 | 1.8 | 2.4 | kW |

(2) The flexible anode connection must not be stretched.

(3) Without taking circuit losses into account.



OPERATING CONDITIONS

OSCILLATOR FOR RF INDUSTRIAL APPLICATION

Maximum ratings

| | | |
|---|-------|-----|
| DC anode voltage | 5.0 | kV |
| DC grid voltage | - 800 | V |
| Peak cathode current | 5.0 | A |
| DC anode current | 650 | mA |
| DC grid current | 150 | mA |
| Power input in C.W. operation | 2.7 | kW |
| Anode dissipation in CW operation | 0.8 | kW |
| Anode peak dissipation in pulse operation (4) | 1.0 | kW |
| Grid dissipation | 50 | W |
| Frequency at full load | 60 | MHz |

Typical operations

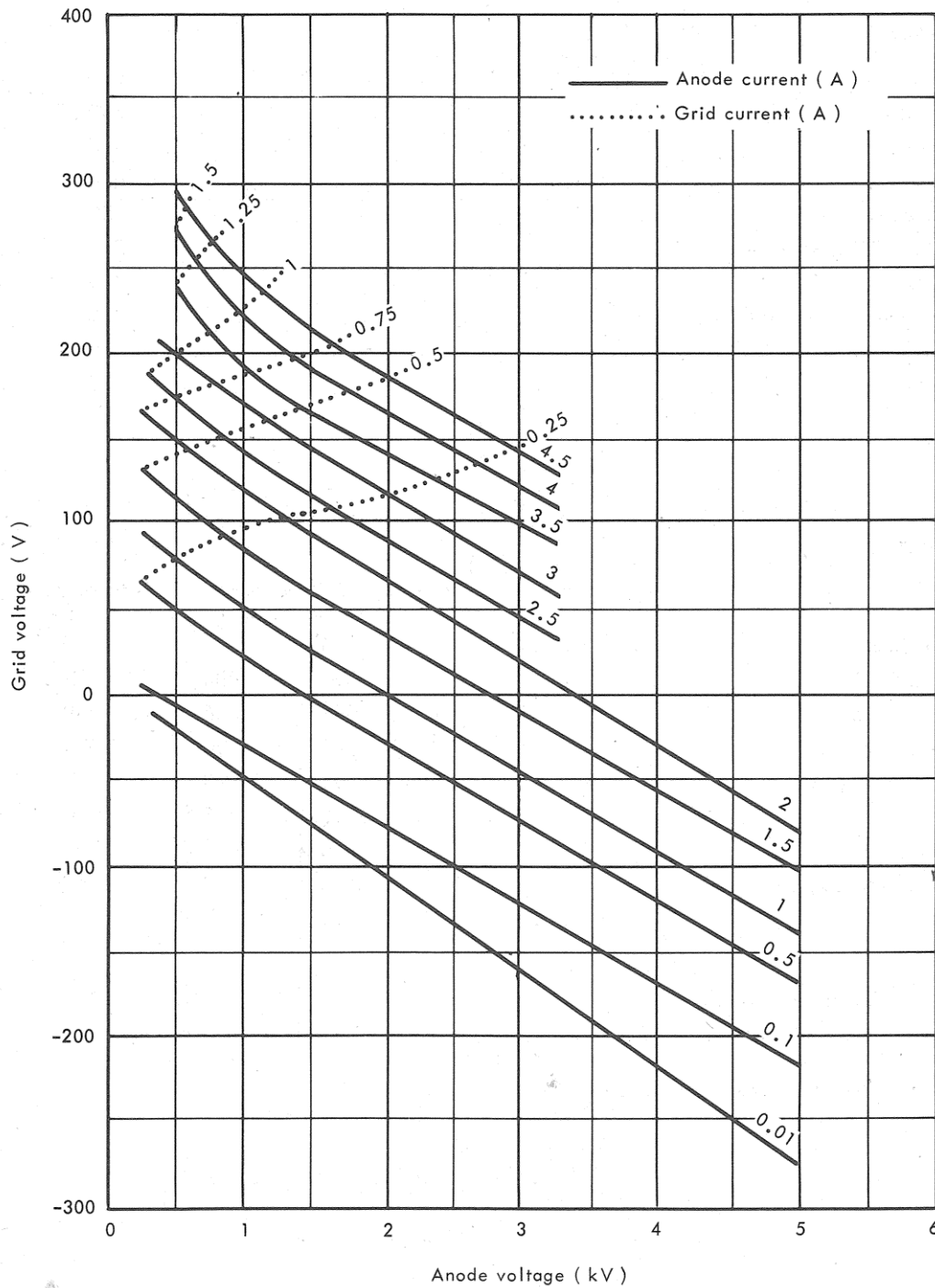
| | C.W. operation | | Pulse operation | |
|---------------------------|----------------|-------|-----------------|----|
| | 4 | 5 | 5 | kV |
| DC anode voltage | | | | |
| DC grid voltage | - 350 | - 400 | - 450 | V |
| Grid peak RF voltage | 500 | 550 | 640 | V |
| DC anode current | 510 | 520 | 650 | mA |
| DC grid current, approx. | 85 | 90 | 120 | mA |
| Power input | 2.05 | 2.6 | 3.25 | kW |
| Anode dissipation | 0.5 | 0.5 | 0.65 | kW |
| Power output, approx. (5) | 1.5 | 2 | 2.5 | kW |
| Efficiency | 73 | 77 | 77 | % |

(4) Maximum integration time : 10 s
Maximum duty cycle : 50 %

(5) Without taking circuit losses into account.



CONSTANT CURRENT CHARACTERISTICS





OUTLINE DRAWING

