

**BROADCAST**  
**UHF TV**

# TH 347

UHF tetrode

**2.2 kW, common amplification**  
**1.5 kW DTV/0.75 kW DVB**

- Air-cooling
- High gain
- Excellent linearity
- High stability



**THALES**



TH 347

The TH 347 is a coaxial ceramic-metal tetrode, designed for analog and digital transmissions in RF amplifiers operating at frequencies up to 1,000 MHz. Featuring excellent linearity, this high-gain tetrode is the perfect solution for digital modulation applications. The TH 18363 cavity is custom-designed to ensure that the TH 347 tetrode offers top performance in any transmitter.

Over 15 years of operating experience, encompassing several hundred sockets installed by various manufacturers worldwide, have proven the long-life durability of these tetrodes.

This product is designed, developed and manufactured at an ISO 9001 registered production site.

**General characteristics**

|  |                 |            |
|--|-----------------|------------|
| Heater supply (1)  | 5.8 V / 32      | A          |
| Amplification factor   | 7               |            |
| Transconductance (I <sub>a</sub> = 1.5 A, V <sub>g2</sub> = 400 V) | 40              | mA/V       |
| Height   | 135             | mm         |
| Diameter   | 110             | mm         |
| Weight   | 2.3             | kg approx. |
| <b>TH 18363/TH 18363 D cavities:</b>                               |                 |            |
| • dimensions   | 644 x 268 x 200 | mm         |
| • weight   | 20              | kg approx. |
| Anode, electrode terminal and ceramic seal cooling                 | forced air      |            |
| TH 18363/TH 18363 D cavity cooling                                 | forced air      |            |

(1) For power supply design only. Thales Electron Devices defines the operating voltage according to each particular operating conditions. These values are maintained to within ± 2%.

**Maximum ratings**

|                          |     |    |
|--------------------------|-----|----|
| Anode voltage            | 5   | kV |
| Anode current            | 2   | A  |
| Anode dissipation        | 4.5 | kW |
| Control-grid dissipation | 5   | W  |
| Screen-grid dissipation  | 25  | W  |

**Typical operation**

|                              | Analog service |                   |                 | Digital service |            |
|------------------------------|----------------|-------------------|-----------------|-----------------|------------|
|                              | Common (2)     | Amplification (3) | Vision only (3) | DTV (8VSB)      | DVB (OFDM) |
| Peak-of-sync output power    | 1.1            | 2.2               | 2.5             |                 |            |
| RMS output power             |                |                   |                 | 1.5             | 0.75       |
| - 1 dB bandwidth             | 10             | 10                | 10              | 10              | 10         |
| Intermodulation products     | - 54           | - 46              |                 |                 |            |
| Gain                         | 15.5           | 15                | 15              | 15              | 15         |
| Anode voltage                | 4              | 4.5               | 4.5             | 5               | 5          |
| Screen-grid voltage          | 400            | 400               | 400             | 600             | 600        |
| Anode current with signal    | 0.8            | 1.15              | 1               | 1.1             | 0.75       |
| Anode current at zero signal | 0.5            | 0.5               | 0.5             | 0.5             | 0.5        |
| Heater voltage               | 5.8            | 5.8               | 5.8             | 6               | 6          |
| Shoulders level (4)          |                |                   |                 | 40              | 34 / 31    |

(2) With the TH 18363 cavity. (3) With the TH 18363 D cavity. (4) Without correction for non linear distortion.

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