

RS 3010 CL

Forced-air cooled triode

11 kW

- Output power:
11 kW in CW mode
- Anode voltage: 7.2 kV
- Anode dissipation: 5 kW max.
- Frequency up to 150 MHz



THALES



RS 3010 CL

The RS 3010 CL is a RF power triode designed specifically for industrial applications. This tube uses a coaxial design and metal-ceramic technology. This triode is designed to operate in CW mode. For operation in pulse mode, the parameters depend on each

equipment characteristics, contact us for specific information. The RS 3010 CL is a forced-air cooled triode.

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

Electrical characteristics

Filament	thoriated tungsten		
Filament voltage (+ 5 %, - 10 %)	6.3	V	
Filament current	66	A	
Surge current	198	A	max.
Capacitance:			
• grid-anode	14.5	pF	
• grid-cathode	19.5	pF	
• cathode-anode (1)	0.5	pF	
Amplification factor	20		approx.
Transconductance (Va: 2 kV, Ia: 1 A)	22	mA/V	approx.

Mechanical Characteristics

Operating position	vertical, anode up or down		
Weight	3.9	kg	approx.
Dimensions	see outline drawing		

Maximum ratings

Frequency	150	MHz	
Anode voltage:			
• up to 85 MHz	7.2	kV	
• from 85 to 150 MHz	6	kV	
Control-grid voltage	- 1 000	V	
Control-grid current (F < 85 MHz):			
• at full load, CW	550	mA	
• at no load, CW	700	mA	
Peak cathode current, CW	12	A	
Anode dissipation	5	kW	
Grid dissipation:			
• up to 85 MHz	200	W	
• from 85 to 150 MHz	150	W	
Grid resistance (at blocked tube)	20	kΩ	

(1) Measured with a 20 cm diameter shielding plate in the grid terminal plane.

Cooling

Anode cooling	forced air		
Cooling water flow and pressure gradient	see cooling curves		
Inlet air temperature	25	°C	typ.
Temperature at any point on tube envelope	220	°C	max.

Typical operation (2)

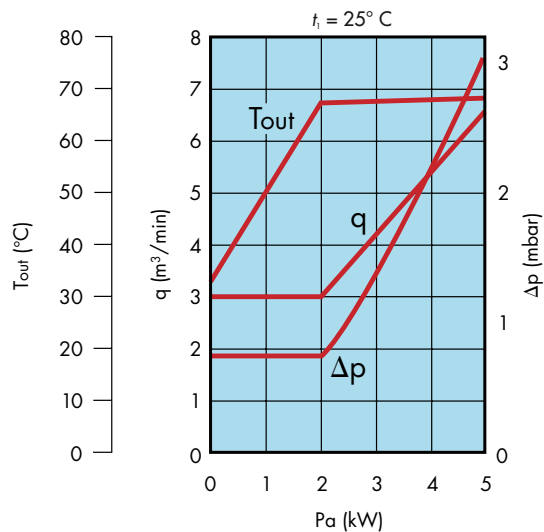
Examples	Class C RF oscillator for industrial applications		
	1	2	
Frequency	< 85	< 85	MHz
Anode voltage	6.5	6.5	kV
Control grid bias	- 530	- 550	V
RF control grid voltage	890	890	V
Anode current	2.25	2.03	A
Grid current	535	500	mA
Anode input power	14.6	13.2	kW
Anode output power (3)	11	10	kW
Anode dissipation	3.3	2.7	kW
Screen grid dissipation	160	145	W
Grid resistance	0.99	1.1	kΩ
Feedback ratio	15.3	15.1	%
Oscillator efficiency	75	76	%

(2) Operation with higher frequencies on request.
 (3) Without taking circuit losses into account.

Nota: Data sheets are for information only. For design purpose, please ask for our latest specification.

Cooling air curves (air flow from anode side)

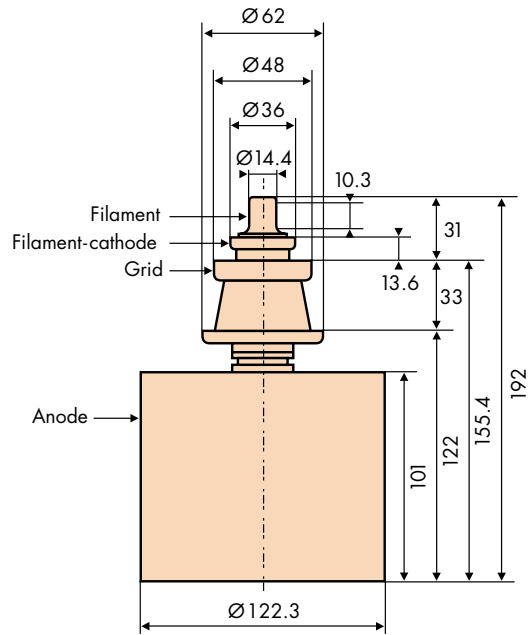
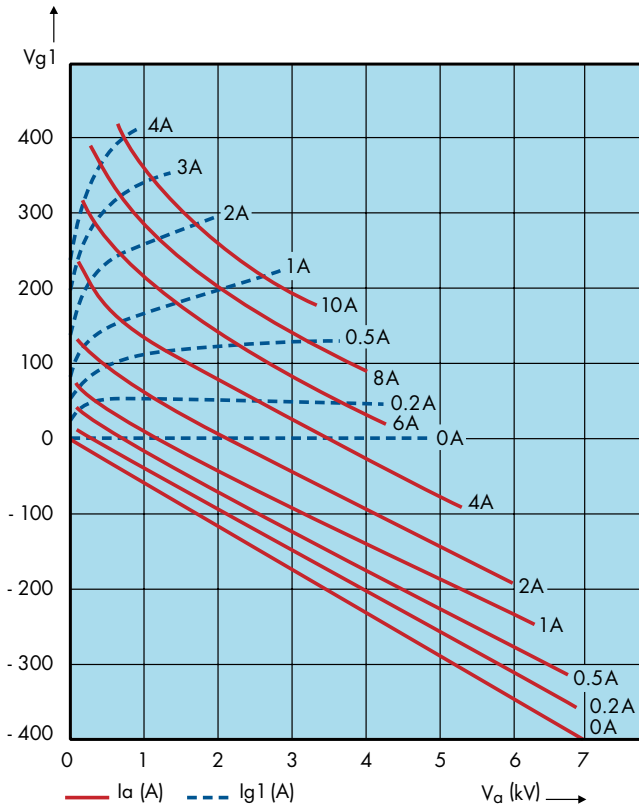
Pa : anode dissipation
 Δp : pressure drop
 q : air flow rate
 T_{out} : air outlet temperature



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Constant current characteristics

Outline drawing (mm)



This document cannot be considered to be a contractual specification. The information given herein may be modified without notice due to product improvement or further development. Consult Thales Electron Devices before making use of this information for equipment design.

For further information, please contact:

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