

RS 3005 CJ

Water-cooled triode

6 kW

- Output power:
6 kW in CW mode
- Anode voltage: 7.2 kV
- Anode dissipation: 2.5 kW max.
- Frequency up to 160 MHz





RS 3005 CJ

The RS 3005 CJ 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 3005 CJ is a water-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	33	A	
Surge current	99	A	max.
Capacitance:			
• grid-anode	14	pF	
• grid-cathode	17	pF	
• cathode-anode (1)	0.4	pF	
Amplification factor	20		approx.
Transconductance (Va: 2 kV, Ia: 0.5 A)	10	mA/V	approx.

Mechanical Characteristics

Operating position	vertical, anode up or down		
Weight	0.9	kg	approx.
Dimensions	see outline drawing		

Maximum ratings

Frequency	160	MHz	
Anode voltage:			
• up to 85 MHz	7.2	kV	
• from 85 to 160 MHz	6	kV	
Control-grid voltage	- 1 000	V	
Control-grid current:			
• at full load, CW	350	mA	
• at no load, CW	450	mA	
Peak cathode current, CW	7.5	A	
Anode dissipation	2.5	kW	
Grid dissipation:			
• up to 85 MHz	150	W	
• from 85 to 160 MHz	110	W	
Grid resistance (at blocked tube)	20	kΩ	

(1) Measured with a 30 cm diameter shielding plate in the grid terminal plane.

Cooling

Anode cooling	water		
Cooling water flow and pressure gradient	see cooling curves		
Cooling water inlet pressure	5	bar	max.
Water inlet temperature	35	°C	max.
Temperature at any point on tube envelope	220	°C	max.
Air flow on tube terminal side	0.3	m ³ /mn	

Typical operation (2)

Class C RF oscillator for industrial applications

Examples	1	2	
Frequency	≤ 85	≤ 85	MHz
Anode voltage	6.3	6.3	kV
Control grid bias	- 550	- 650	V
RF control grid voltage	940	1 010	V
Anode current	1.29	1.03	A
Control grid current	285	255	mA
Anode input power	8.1	6.5	kW
Anode output power (3)	6	5	kW
Anode dissipation	1.85	1.25	kW
Control grid dissipation	95	80	W
Grid resistance	1.95	2.6	kΩ
Feedback ratio	16.9	18	%
Oscillator efficiency	74	77	%

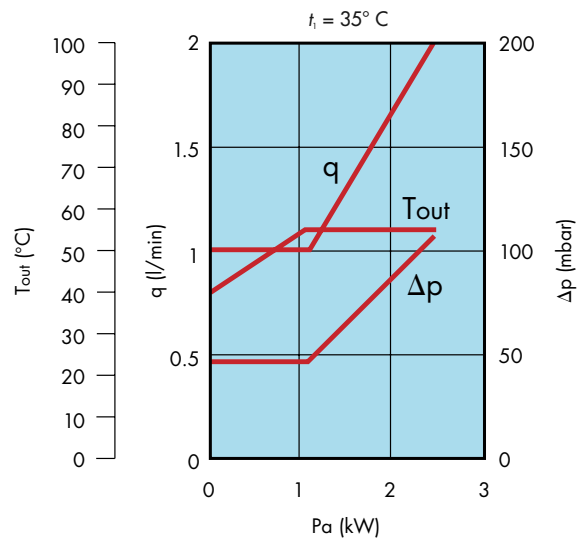
(2) Operation with higher frequencies on request.

(3) Without taking circuit losses into account.

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

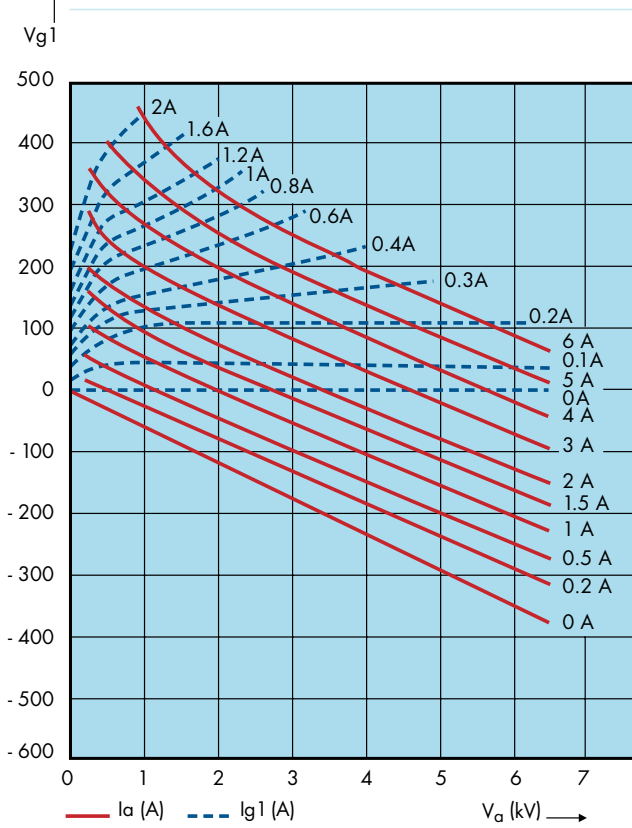
Cooling water curves:

P_a : anode dissipation
 Δp : pressure drop
 q : water flow rate
 T_{out} : water outlet temperature

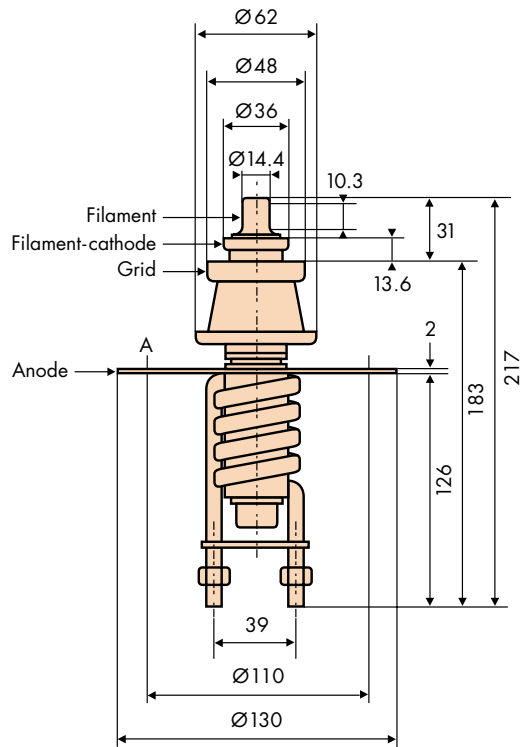


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Constant current characteristics



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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