

RS 3041 CJ

Water-cooled high- μ triode

65 kW

- Output power:
65 kW in CW mode
- Anode voltage: 15 kV
- Anode dissipation: 35 kW max.
- Frequency up to 100 MHz



THALES



RS 3041 CJ

The RS 3041 CJ is a RF power high-amplification factor 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 3041 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 %)	8	V	
Filament current	185	A	
Surge current	555	A	max.
Capacitance:			
• grid-anode	31	pF	
• grid-cathode	90	pF	
• cathode-anode (1)	0.5	pF	
Amplification factor	100		approx.
Transconductance (Va: 10 kV, Ia: 3 A)	80	mA/V	approx.

Mechanical Characteristics

Operating position	vertical, anode up or down		
Weight	8.5	kg	approx.
Dimensions	see outline drawing		

Maximum ratings

Frequency	100	MHz	
Anode voltage:			
• up to 40 MHz	15	kV	
• from 40 to 70 MHz	12	kV	
• from 70 to 100 MHz	10	kV	
Control-grid voltage	- 800	V	
Control-grid current (F < 40 MHz):			
• at full load, CW	3.3	A	
• at no load, CW	4.2	A	
Peak cathode current, CW	48	A	
Anode dissipation	35	kW	
Grid dissipation:			
• up to 40 MHz	1 200	W	
• from 40 to 70 MHz	1 000	W	
• from 70 to 100 MHz	700	W	
Grid resistance (at blocked tube)	10	k Ω	

(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	6	bar	max.
Water inlet temperature	35	°C	max.
Temperature at any point on tube envelope	220	°C	max.
Air flow on tube terminal side	1	m ³ /mn	

Typical operation (2)

Class C RF oscillator for industrial applications

Examples	1	2	
Frequency	< 70	< 30	MHz
Anode voltage	11	10	kV
Control grid bias	- 300	- 420	V
RF control grid voltage	635	720	V
Anode current	7.6	5.6	A
Control grid current	2.8	2.25	A
Anode input power	84	56	kW
Anode output power (3)	65	45	kW
Anode dissipation	17	9.5	kW
Control grid dissipation	790	570	W
Grid resistance	107	187	Ω
Feedback ratio	6.3	7.8	%
Oscillator efficiency	77.5	80.5	%

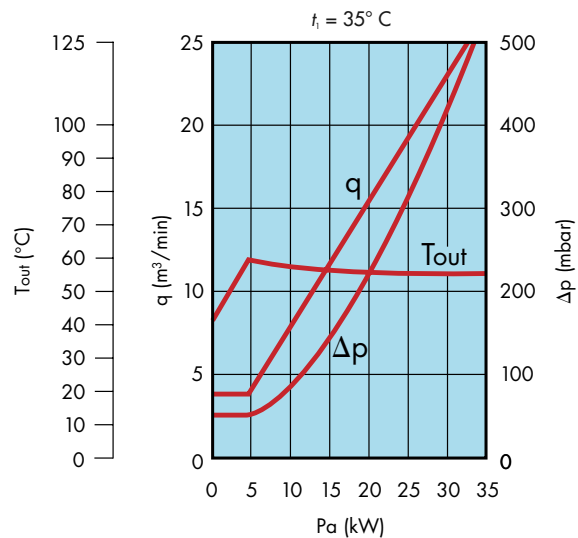
(2) Operation with higher frequencies on request.

(3) Without taking circuit losses into account.

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

Cooling water curves:

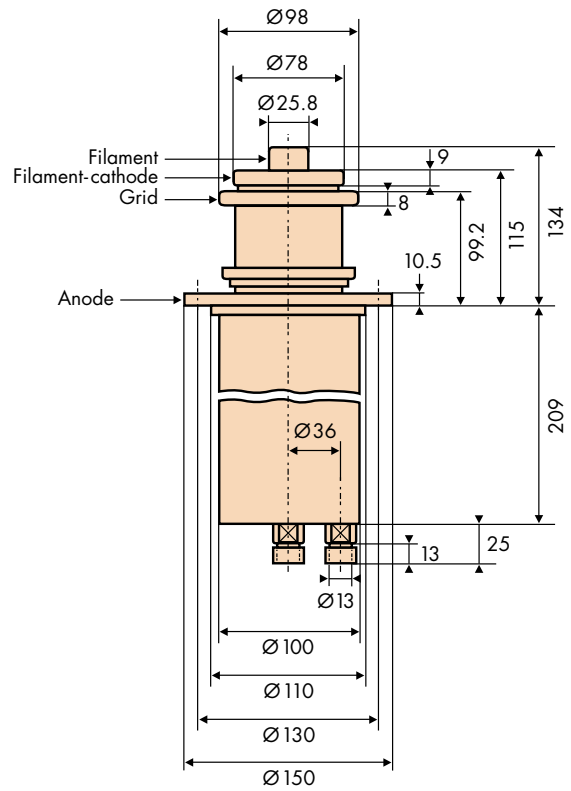
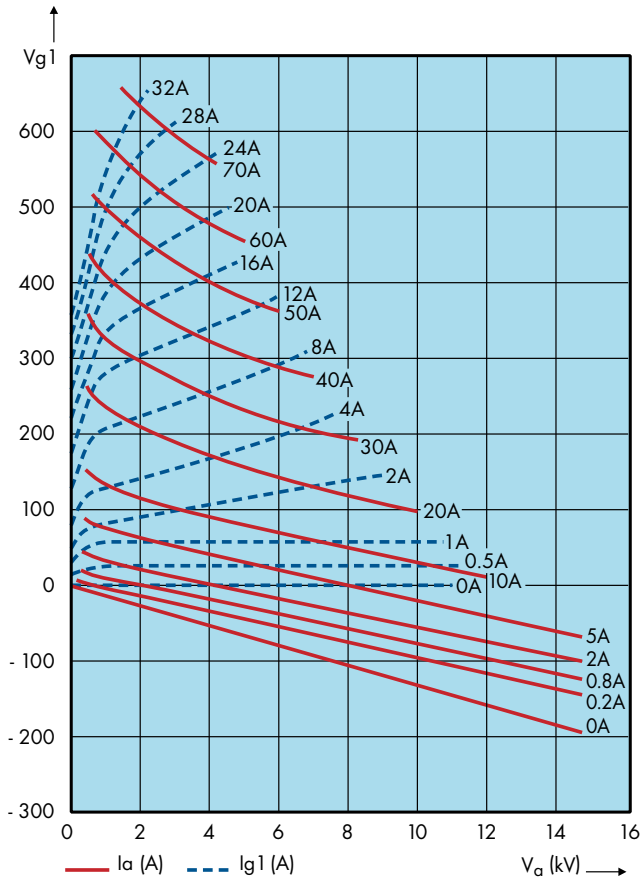
Pa : anode dissipation
 Δp : pressure drop
 q : water flow rate
 T_{out} : water outlet temperature



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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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