

RS 2041 J

Water-cooled triode

600 kW

- Output power:
600 kW in CW mode
- Anode voltage: 18 kV
- Anode dissipation: 240 kW max.
- Frequency up to 30 MHz



THALES



RS 2041 J

The RS 2041 J 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 2041 J 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 %)	20	V	
Filament current	380	A	
Surge current	1 140	A	max.
Capacitance:			
• grid-anode	145	pF	
• grid-cathode	320	pF	
• cathode-anode (1)	6	pF	
Amplification factor	35		approx.
Transconductance (Va: 4 kV, Ia: 10 A)	215	mA/V	approx.

Mechanical Characteristics

Operating position	vertical, anode up or down		
Weight	60	kg	approx.
Dimensions	see outline drawing		

Maximum ratings

Frequency (2)	30	MHz	
Anode voltage:			
• up to 10 MHz	18	kV	
• from 10 to 30 MHz	14	kV	
Control-grid voltage	- 1.2	kV	
Control-grid current:			
• at full load, CW	11	A	
• at no load, CW	14	A	
Peak cathode current, CW	280	A	
Anode dissipation	240	kW	
Grid dissipation:			
• up to 10 MHz	7	kW	
• from 10 to 30 MHz	5	kW	
Grid resistance (at blocked tube)	3	kΩ	

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

(2) Limited conditions above 30 MHz. Please consult Thales Electron Devices.

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	180	°C	max.
Air flow on tube terminal side	5	m ³ /mn	min.

Typical operation (3)

Examples	Class C RF oscillator for industrial applications		
	1	2	
Frequency	< 10	< 10	MHz
Anode voltage	17	15	kV
Control grid bias	- 900	- 850	V
RF control grid voltage	1.52	1.46	kV
Anode current	45.4	44	A
Control grid current	8.2	8.2	A
Anode input power	772	660	kW
Anode output power (4)	602	505	kW
Anode dissipation	160	143	kW
Control grid dissipation	4.3	4.2	kW
Grid resistance	110	104	Ω
Feedback ratio	9.8	10.8	%
Oscillator efficiency	78	76.5	%

(3) Operation with higher frequencies on request.

(4) Without taking circuit losses into account.

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

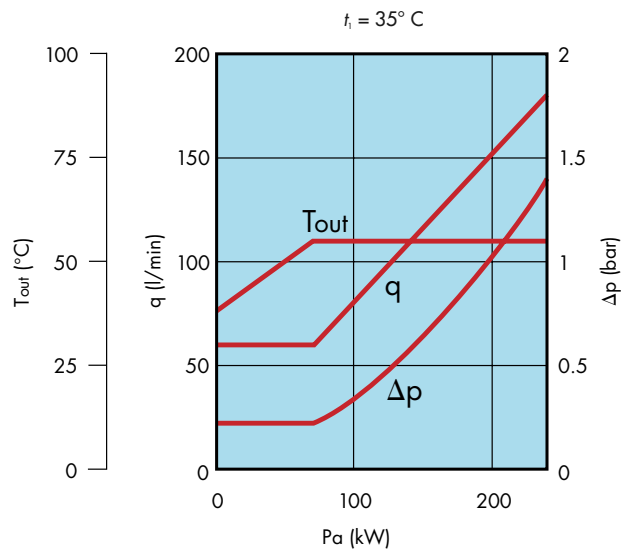
Cooling water curves:

P_a : anode dissipation

Δp : pressure drop

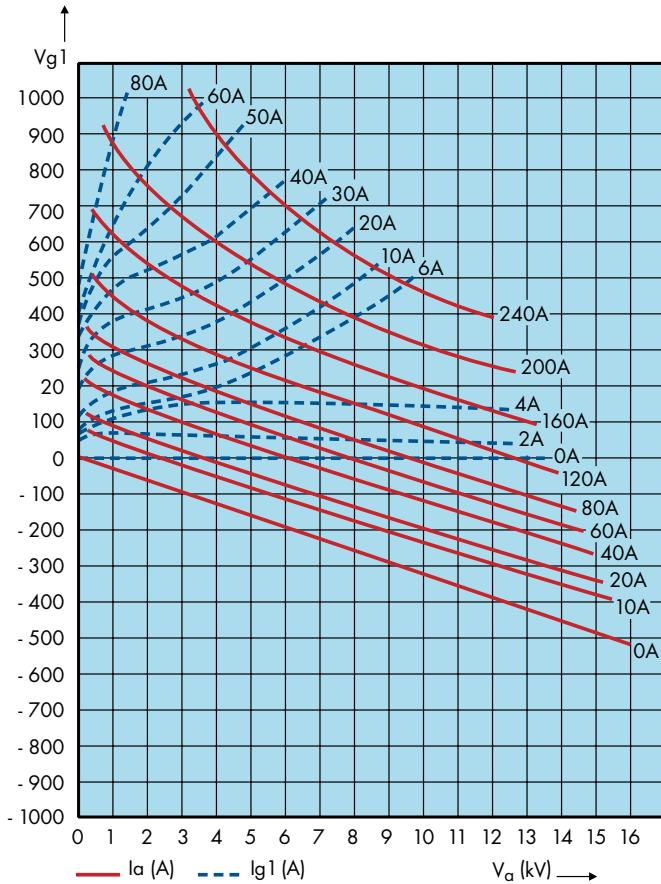
q : water flow rate

T_{out} : water outlet temperature

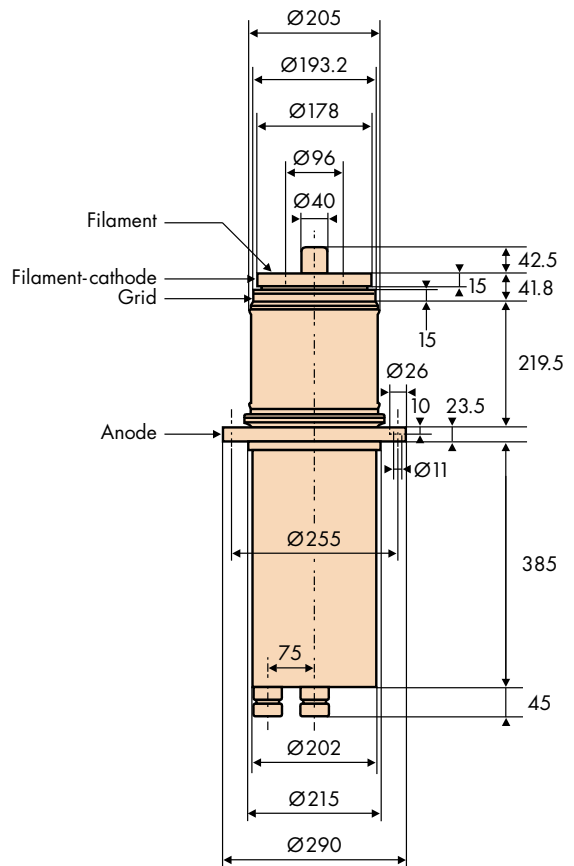


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Constant current characteristics



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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