

**RS 3080 CJ**  
Water-cooled triode

**130 kW**

- Output power:  
130 kW in CW mode
- Anode voltage: 14 kV
- Anode dissipation: 60 kW max.
- Frequency up to 100 MHz



**THALES**



RS 3080 CJ

The RS 3080 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 3080 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 %)	11	V	
Filament current	205	A	
Surge current	615	A	max.
Capacitance:			
• grid-anode	46	pF	
• grid-cathode	106	pF	
• cathode-anode (1)	3	pF	
Amplification factor	19		approx.
Transconductance (Va: 4 kV, Ia: 3 A)	60	mA/V	approx.

### Mechanical characteristics

Operating position	vertical anode up or down		
Weight	8	kg	approx.
Dimensions	see outline drawing		

### Maximum ratings

Frequency (2)	30	MHz
Anode voltage	14	kV
Control-grid voltage	- 1.5	kV
Cathode current:		
• on load, CW	2.3	A
• off load, CW	2.6	A
Peak cathode current, CW	85	A
Anode dissipation	60	kW
Grid dissipation:	1.25	kW
Grid resistance (at blocked tube)	8	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	220	°C	max.
Air flow on tube terminal side	3	m <sup>3</sup> /mn	

## Typical operation (3)

### Class C RF oscillator for industrial applications

Frequency	< 30	MHz
Anode voltage	12	kV
Control grid bias	- 1 055	V
RF Control grid voltage	1 555	V
Anode current	12.7	A
Control grid current	2.2	A
Anode input power	151.9	kW
Anode output power (4)	106	kW
Anode dissipation	35	kW
Control grid dissipation	942	W
Grid resistance	485	Ω
Feedback ratio	14.8	%
Oscillator efficiency	74.9	%

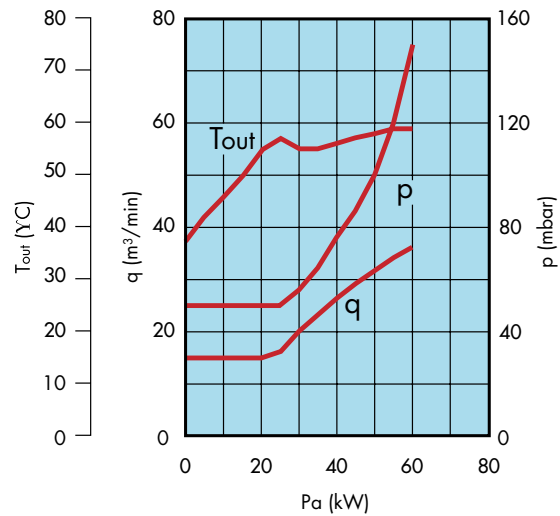
(3) Operation with higher frequencies on request.

(4) Without taking circuit losses into account.

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

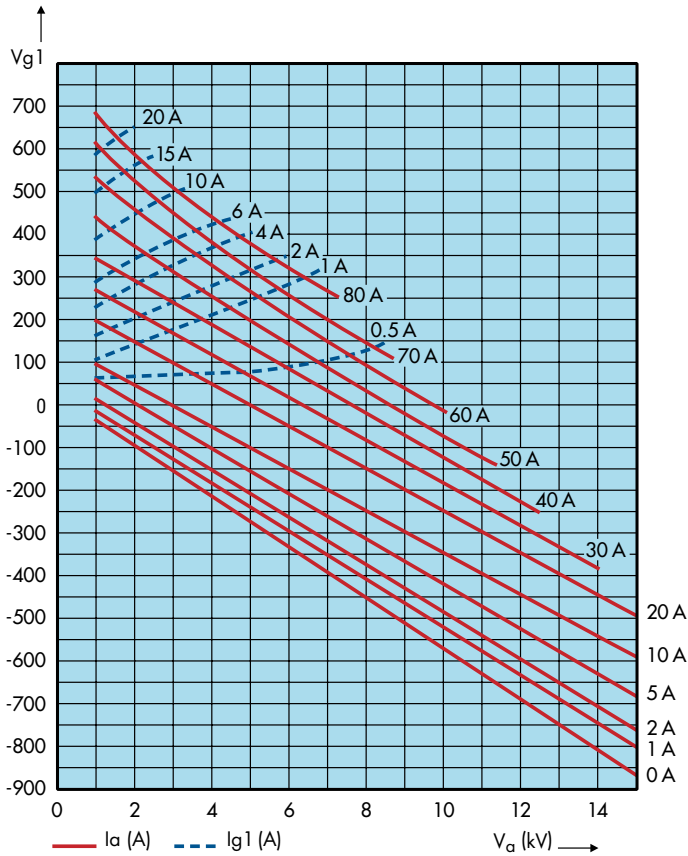
## Cooling water curves:

$P_a$  : anode dissipation  
 $\Delta p$  : pressure drop  
 $q$  : water flow rate  
 $T_{out}$  : water outlet temperature

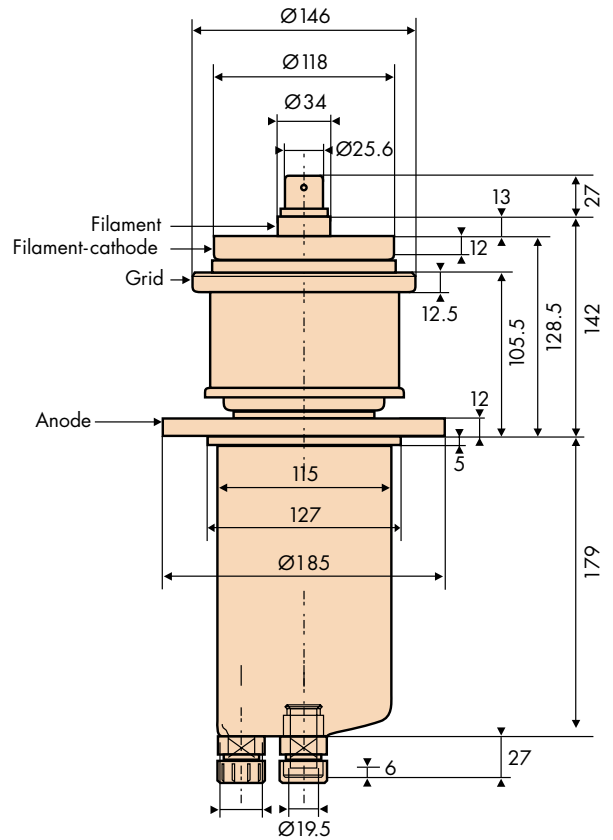


# RS 3080 CJ

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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