

RS 3040 CL

Forced-air cooled triode

60 kW

- Output power:
60 kW in CW mode
- Anode voltage: 14 kV
- Anode dissipation: 25 kW max.
- Frequency up to 100 MHz



THALES



RS 3040 CL

The RS 3040 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 3040 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 %)	8	V	
Filament current	185	A	
Surge current	555	A	max.
Capacitance:			
• grid-anode	29	pF	
• grid-cathode	78	pF	
• cathode-anode (1)	2	pF	
Amplification factor	20		approx.
Transconductance (Va: 4 kV, Ia: 3 A)	50	mA/V	approx.

Mechanical Characteristics

Operating position	vertical, anode up or down		
Weight	13	kg	approx.
Dimensions	see outline drawing		

Maximum ratings

Frequency	100	MHz	
Anode voltage:			
• up to 30 MHz	14	kV	
• from 30 to 50 MHz	10	kV	
• from 50 to 100 MHz	7.5	kV	
Control-grid voltage	- 1.5	kV	
Control-grid current (F < 30 MHz):			
• at full load, CW	1.6	A	
• at no load, CW	1.9	A	
Peak cathode current, CW	45	A	
Anode dissipation	25	kW	
Grid dissipation:			
• up to 30 MHz	820	W	
• from 30 to 50 MHz	700	W	
• from 50 to 100 MHz	600	W	
Grid resistance (at blocked tube)	12	kΩ	

(1) Measured with a 30 cm diameter shielding plate in the screen-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)

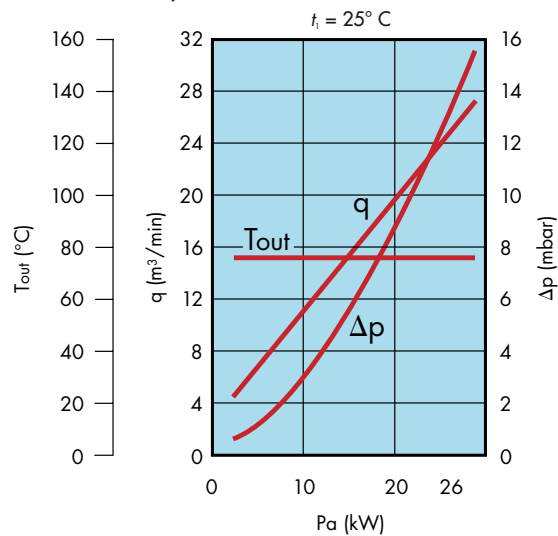
Examples	Class C RF oscillator for industrial applications		
	1	2	
Frequency	< 30	< 30	MHz
Anode voltage	12	12	kV
Control grid bias	- 1 100	- 1 000	V
RF Control grid voltage	1 560	1 400	V
Anode current	6.3	5.2	A
Control grid current	1.2	1	A
Anode input power	76	62.4	kW
Anode output power (3)	60	50	kW
Anode dissipation	14	11	kW
Control grid dissipation	470	350	W
Grid resistance	920	1 000	Ω
Feedback ratio	14.5	12.7	%
Oscillator efficiency	79	80	%

(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)

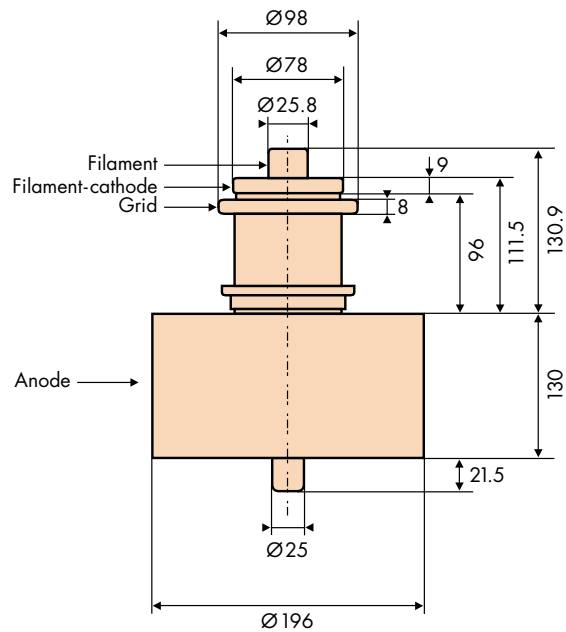
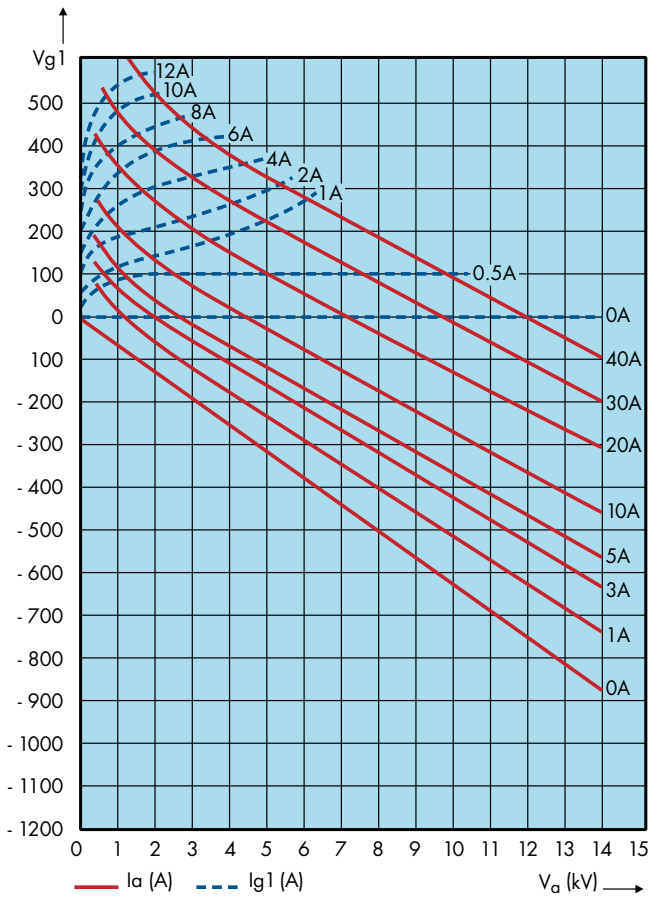
Pa : anode dissipation
 Δp : pressure drop
 q : air flow rate
 T_{out} : air outlet temperature



RS 3040 CL

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:

THALES ELECTRON DEVICES

2 bis, rue Latécoère - 78941 Vélizy Cedex - France
 Tel: + 33 1 30 70 35 00 - Fax: + 33 1 30 70 35 35
www.thalesgroup.com/electrondevices