Heating rings

Basic values:

Parameter	Value
Outer diameter	Ø 50 mm
Inner diameter	Ø 0 - 22 mm
T_{max}	500 °C

Details of Inner Ø 22 mm:

Description

Heating rings made of silicon nitride are mainly used for sealing processes in packaging machines. The heating rings are available in standard sizes, but we are also pleased to be able to implement geometry that fits exactly with your requirements. The ceramic heating rings from Bach RC have the advantage of providing the required heating capacity close to the final contour and close to the sealing site in a manner that is precise and dynamically adjustable. Thus, cycle times can be accelerated, energy consumption and waste heat reduced, and so the thermal distortion in the construction setup of the packaging machine is minimised.

* The actual power depends on resistance, temperature and voltage.

Parameter	Value
Article no.	FLR 100 305
Resistance @ 20 °C	40 Ω ±25 %
Nominal voltage	230 V
Nominal power @ 20 °C	1 322 W*

Basic Material

Parameter	Scale unit	Si_3N_4
max. temperature (T_{max})	°C	1 000
thermal conductivity (l)	W/mK	40
temperature shock resistance (ΔT)	K	500
emissivity (1 100 °C) (ε)	-	0.96
Young's modulus (E)	GPa	320
bending strength (δ_{BB})	MPa	400
compressive strength (δ_D)	MPa	2 000
coefficient of thermal expansion (α)	10^{-6} K^{-1}	3
density (g)	g/cm³	3.21
specific heat (c_p)	J/kgK	750
porosity (100 - % t.D.)	%	0
critical stress intensity factor (K_{Ic})	MPa $m^{½}$	6
Weibull – modulus (m)	-	7.9

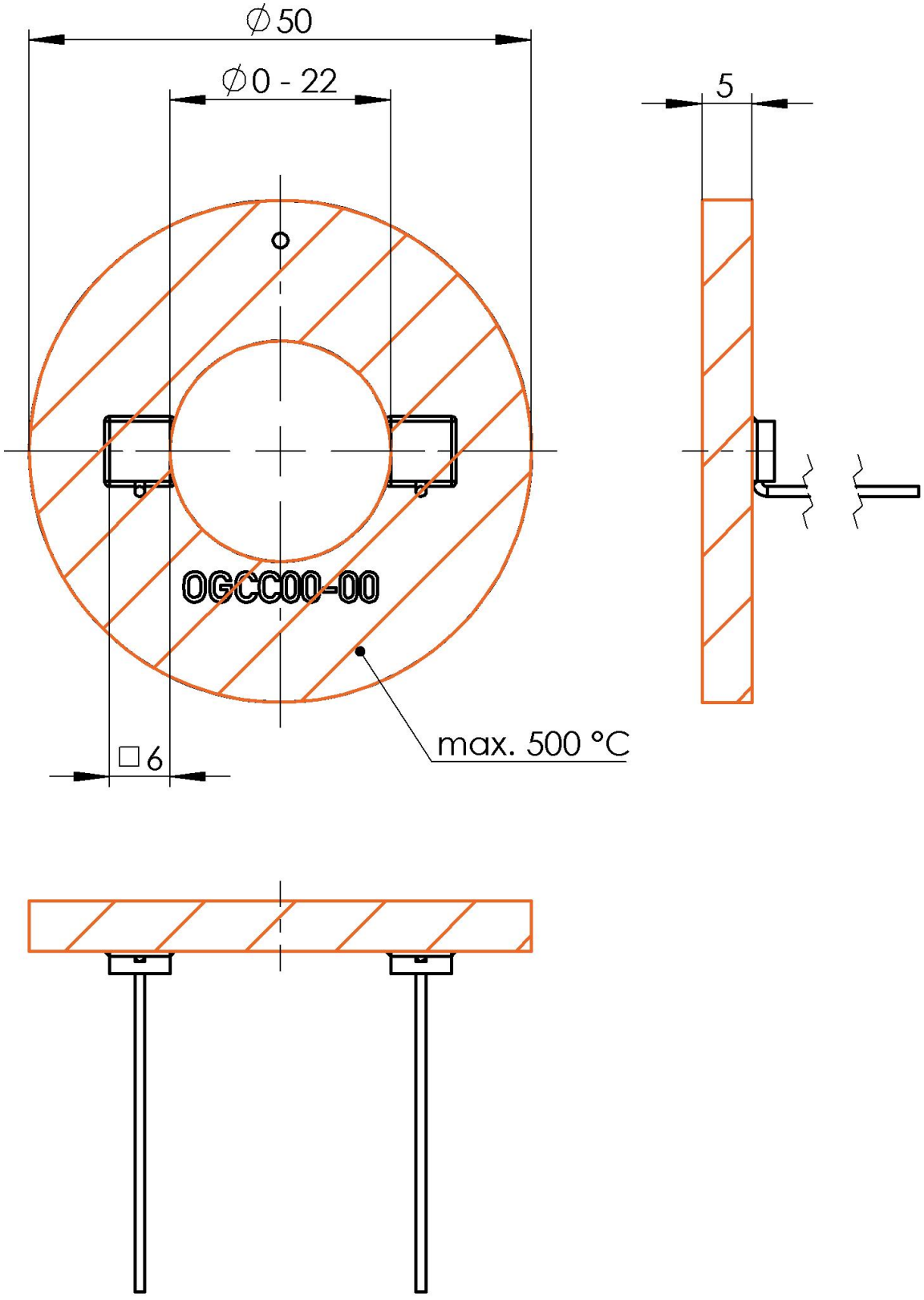
The thermal shock resistance depends on the geometric shape of the heater.

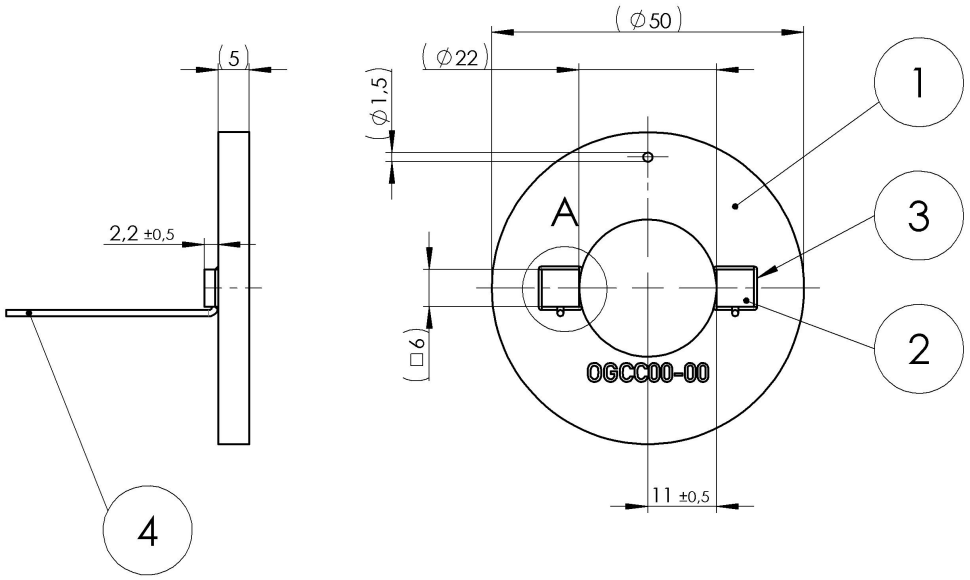
Electrical parameters

Parameter	Scale unit	Si_3N_4
resistivity	Ω cm	$5 \cdot 10^{-3}$ - $5 \cdot 10^{-1}$
isolation resistivity	Ω mm (20 °C)	10^{13}
dielectric strength	kV/mm	25

Emission spectrum

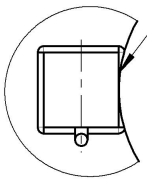
Fully ceramic heating elements are long-wave infrared heaters with a maximum emission of 5 to 10 µm and a radiation coefficient of ε > 0.9.

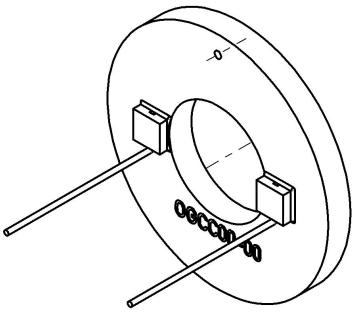

∅50
∅0 - 22
5
OGCC00-00
□6
max. 500 °C



A (2 : 1)

ATTENTION: In the area of the solder joint occurs braze material outward. This braze material has the same potential like the contacts





TOLERANCES: siehe Einzelteil	FINISH:	DEBUR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING
			MATERIAL: siehe Stueckliste

REV.	REVISION NO.	DATE	NAME
1.0	-	22.10.2015	

	NAME	DATE
DESIGNED	R. Mielke	22.10.2015
DRAWN	R. Mielke	22.10.2015
APPV'D		

TITLE: Heizelement-LB

BACH·RC Bach Resistor Ceramics GmbH

DWG NO. 5E-10000-15-135 A4

WEIGHT: 26.45 g | SCALE: 1:1 | SAP NO. | SHEET 1 OF 3

100 mm SCALE 1:1