



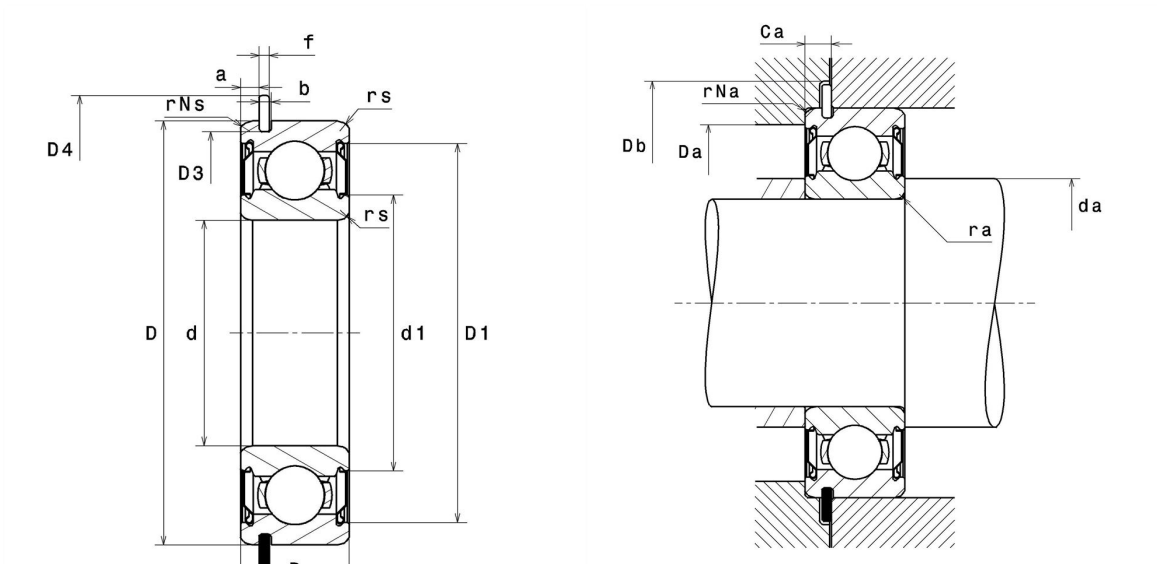
Technical datasheet

6209ZZNR/5K

Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, snap ring & groove on outer diameter, shields on both sides

Visual(s)



Product definition

d	45 mm
D	85 mm
B	19 mm
a min	3.07 mm
a max	3.28 mm
Ca min	4.67 mm
Ca max	4.98 mm
rs min	1.1 mm
rNs min	0.5 mm
D3 max	81.81 mm
b min	1.9 mm
b max	2.2 mm
r0 max	0.6 mm
D4 max	91.6 mm
f	1.7 mm
Snap ring reference	R85
Radial clearance class	CN
Mass	0.4 kg
Brand	NTN

Product performance

Dynamic load, C	32.5 kN
Static load, C₀	20.4 kN
Fatigue limit load, C_u	0.93 kN
f₀	14.1
N_{lim} (grease)	7,800 rpm
Min operating temperature, T_{min}	-20 °C
Max operating temperature, T_{max}	120 °C
Characteristic cage frequency, FTF	0.4 Hz
Characteristic rolling element frequency, BSF	4.92 Hz
Characteristic outer ring frequency, BPF₀	3.62 Hz
Characteristic inner ring frequency, BPF_i	5.38 Hz

Abutment dimensions

da min	51.5 mm
Da max	78.5 mm
ra max	1 mm
rNa max	0.5 mm
Db min	93 mm

Calculation factors

Equivalent dynamic radial load

$$P = X.F_r + Y.F_a$$

$\frac{f_0 F_a}{C_0}$	e	F _a / F _r ≤ e		F _a / F _r > e	
		X	Y	X	Y
0.172	0.19	1	0	0.56	2.3
0.345	0.22				1.99
0.689	0.26				1.71
1.03	0.28				1.55
1.38	0.3				1.45
2.07	0.34				1.31
3.45	0.38				1.15
5.17	0.42				1.04
6.89	0.44				1

Equivalent static radial load

$$P_0 = X_0.F_r + Y_0.F_a$$

X ₀	Y ₀
0.6	0.5

For single or DT bearing arrangement:

If P₀ < F_r, then use P₀ = F_r