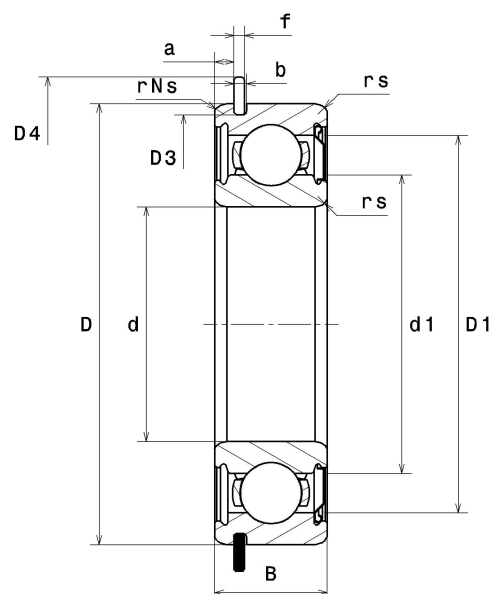


PDF technical sheet 6003ZNR



Single row deep groove ball bearings

Product definition	
d	17 mm
D	35 mm
B	10 mm
a min	1.90 mm
a max	2.06 mm
Ca min	2.92 mm
Ca max	3.18 mm
rs min	0.30 mm
rNs min	0.30 mm
D3 max	33.17 mm
b min	1.35 mm
b max	1.65 mm
r0 max	0.40 mm
D4 max	39.70 mm
f	1.12 mm
Snap ring reference	R35
Radial clearance class	CN
Mass	0.04 kg
Brand	NTN



Product performance	
Dynamic load, C	6.80 kN
Static load, C0	3.35 kN
Fatigue limit load, Cu	0.15 kN
f0	13.6
Nlim (oil)	24,000 Tr/min
Nlim (grease)	20,000 Tr/min
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.39 Hz
Characteristic rolling element frequency, BSF	4.47 Hz
Characteristic outer ring frequency, BPF0	3.15 Hz
Characteristic inner ring frequency, BPF1	4.86 Hz



Abutment dimensions

da min	19 mm
Da max	33 mm
ra max	0.30 mm
rNa max	0.30 mm
Db min	40.50 mm

Calculation factors

Equivalent dynamic radial load

$$P = X \cdot Fr + Y \cdot Fa$$

$\frac{f_0 F_a}{C_0}$	e	$F_a / Fr \leq e$		$F_a / Fr > e$	
		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

$$P_0 = X_0 \cdot Fr + Y_0 \cdot Fa$$

X_0	Y_0
0.6	0.5

For single or DT bearing arrangement:

If $P_0 < Fr$, then use $P_0 = Fr$