

PDF technical sheet

6209E

Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, contact seal on one side

Product definition	
d	45 mm
D	85 mm
B	19 mm
d1	54.50 mm
D1	75.60 mm
rs min	1.10 mm
Radial clearance class	CN
Mass	0.40 kg
Brand	SNR

Product performance	
Dynamic load, C	32.20 kN
Static load, C0	20.40 kN
Fatigue limit load, Cu	0.93 kN
f0	14.1
Nlim	5,300 Tr/min
Min operating temperature, Tmin	-20 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.40 Hz
Characteristic rolling element frequency, BSF	4.92 Hz
Characteristic outer ring frequency, BPF0	3.62 Hz
Characteristic inner ring frequency, BPFI	5.38 Hz

Abutment dimensions	
da min	51.50 mm
da max	54.50 mm
Da max	78.50 mm
ra max	1 mm

Calculation factors

Equivalent dynamic radial load

$$P = X \cdot F_r + Y \cdot F_a$$

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

$$P_0 = X_0 \cdot F_r + Y_0 \cdot F_a$$

X_0	Y_0
0.6	0.5

For single or DT bearing arrangement:

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