

PDF technical sheet 6311LLB/5C



Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, non-contact seals on both sides

Product definition

d	2.1654 "
D	4.7244 "
B	1.1417 "
rs min	0.0787 "
Radial clearance class	CN
Mass	4.83 oz
Brand	NTN



Product performance

Dynamic load, C	71.50 kN
Static load, C0	45 kN
Fatigue limit load, Cu	2.05 kN
f0	13.2
Nlim (grease)	5,800 RPM
Min operating temperature, Tmin	-13 °C
Max operating temperature, Tmax	230 °C
Characteristic cage frequency, FTF	0.38 Hz
Characteristic rolling element frequency, BSF	4.08 Hz
Characteristic outer ring frequency, BPF0	3.07 Hz
Characteristic inner ring frequency, BPF1	4.93 Hz



Abutment dimensions

da min	2.5197 "
da max	2.9134 "
Da max	4.3701 "
ra max	0.0787 "

Calculation factors

Equivalent dynamic radial load

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

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

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

X_0	Y_0
0.6	0.5

For single or DT bearing arrangement:

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