

PDF technical sheet 6809



Single row deep groove ball bearings

Deep groove ball bearing, radial contact, pressed steel cage, open

Product definition	
d	1.7717 "
D	2.2835 "
B	0.2756 "
rs min	0.0118 "
Radial clearance class	CN
Mass	0.14 oz
Brand	NTN



Product performance	
Dynamic load, C	5.35 kN
Static load, C0	4.95 kN
Fatigue limit load, Cu	0.23 kN
f0	16.1
Nlim (oil)	12,000 RPM
Nlim (grease)	11,000 RPM
Min operating temperature, Tmin	-4 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.47 Hz
Characteristic rolling element frequency, BSF	14.65 Hz
Characteristic outer ring frequency, BPF0	11.65 Hz
Characteristic inner ring frequency, BPF1	13.35 Hz



Abutment dimensions

da min	1.8504 "
Da max	2.2047 "
ra max	0.0118 "

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 $P_0 = Fr$