

PDF technical sheet 6816



Single row deep groove ball bearings

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

Product definition

d	3.1496 "
D	3.9370 "
B	0.3937 "
rs min	0.0236 "
Radial clearance class	CN
Mass	0.54 oz
Brand	NTN



Product performance

Dynamic load, C	12.70 kN
Static load, C0	13.30 kN
Fatigue limit load, Cu	0.60 kN
f0	16
Nlim (oil)	7,100 RPM
Nlim (grease)	6,000 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	16.14 Hz
Characteristic outer ring frequency, BPF0	12.67 Hz
Characteristic inner ring frequency, BPFI	14.33 Hz



Abutment dimensions

da min	3.3071 "
Da max	3.7795 "
ra max	0.0236 "

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 $P_0 = Fr$