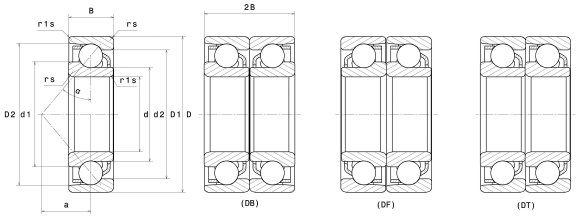
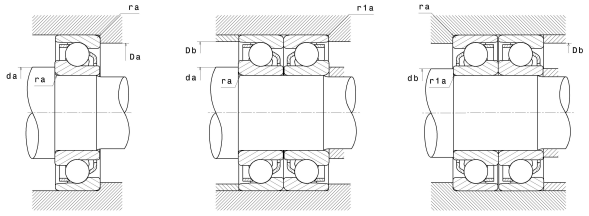
PDF technical sheet
7304B

Single row or matched pairs of angular contact ball bearings
Angular contact ball bearings, pressed steel cage

Product definition	
d	20 mm
D	52 mm
B	15 mm
a	22.50 mm
Contact angle, a	40 °
rs min	1.10 mm
r1s min	0.60 mm
Mass	0.14 kg
Brand	NTN



Product performance	
Dynamic load, C	17.30 kN
Static load, C0	9.65 kN
Fatigue limit load, Cu	0.44 kN
Nlim (oil)	18,000 Tr/min
Nlim (grease)	13,000 Tr/min
Min operating temperature, Tmin	−40 °C
Max operating temperature, Tmax	120 °C
Characteristic cage frequency, FTF	0.40 Hz
Characteristic rolling element frequency, BSF	3.63 Hz
Characteristic outer ring frequency, BPF0	3.99 Hz
Characteristic inner ring frequency, BPFI	6.01 Hz



Abutment dimensions	
da min	27 mm
db min	24.50 mm
Da max	45 mm
Db max	47.50 mm
r1a max	0.60 mm
ra max	1 mm

Calculation factors

Equivalent dynamic radial load

P = X.Fr + Y.Fa

	e	Single or DT bearing arrangement				DB or DF arrangement			
		Fa / Fr ≤ e		Fa / Fr > e		Fa / Fr ≤ e		Fa / Fr > e	
		X	Y	X	Y	X	Y	X	Y
30°	0.8	1	0	0.9	0.76	1	0.78	0.63	1.24
40°	1.14			0.35	0.57		0.55	0.57	0.93

Equivalent static radial load

Po = Xo.Fr + Yo.Fa

a	Single or DT bearing arrangement		DB or DF arrangement	
	X_0	Y_0	X_0	Y_0
30°	0.5	0.33	1	0.66
40°		0.26		0.52

For single or DT bearing arrangement :

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