

PDF technical sheet 6311F605



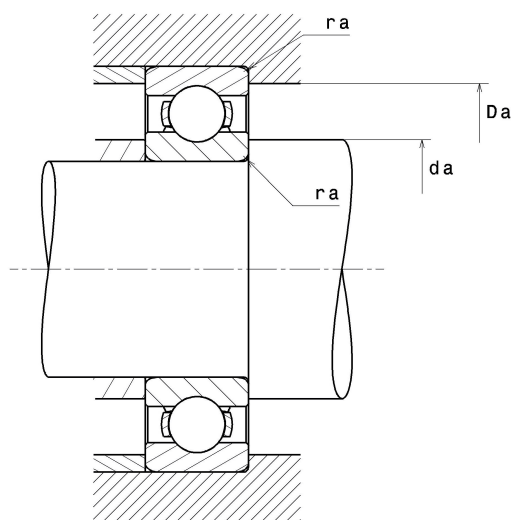
Single row deep groove ball bearings

TOPLINE deep groove ball bearing, radial contact, pressed steel cage, open, limestone applications upto 350 °C.

Product definition	
d	2.1654 "
D	4.7244 "
B	1.1417 "
d1	2.7165 "
D1	4.0276 "
rs min	0.0787 "
Radial clearance class	> C5
Mass	4.87 oz
Brand	SNR



Product performance	
Dynamic load, C	0.01 kN
Static load, C0	0.01 kN
Fatigue limit load, Cu	0.00 kN
f0	13.1
Nlim	50 RPM
Min operating temperature, Tmin	-40 °C
Max operating temperature, Tmax	662 °C
Characteristic cage frequency, FTF	0.38 Hz
Characteristic rolling element frequency, BSF	4.00 Hz
Characteristic outer ring frequency, BPF0	3.06 Hz
Characteristic inner ring frequency, BPF1	4.94 Hz



Abutment dimensions

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

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 $P_0 = Fr$