

PDF technical sheet 594A



Single row tapered roller bearings

Mounted cone, sheet metal cage

Product definition	
d	3.7500 "
B	1.4300 "
d1	4.7717 "
e	0.44
Y2	1.36
Y0	0.75
Mass	5.08 oz
Brand	BOWER



Product performance	
Dynamic load, C	180 kN
Rating life coefficient, A2	1.4
Static load, C0	279 kN
Fatigue limit load, Cu	32.10 kN
Nlim (oil)	3,100 RPM
Nlim (grease)	2,300 RPM
Min operating temperature, Tmin	-40 °C
Max operating temperature, Tmax	248 °C
Characteristic cage frequency, FTF	0.45 Hz
Characteristic rolling element frequency, BSF	9.18 Hz
Characteristic outer ring frequency, BPF0	10.76 Hz
Characteristic inner ring frequency, BPFI	13.24 Hz



Abutment dimensions	
ra max	0.1969 "

Calculation factors

Equivalent dynamic radial load

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

$F_a / F_r \leq e$		$F_a / F_r > e$	
X	Y	X	Y
1	0	0.4	Y2

Equivalent static radial load

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

X_0	Y_0
0.5	Y0

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

The values for e, Y2 and Y0 are shown in the above table