Image may differ from product. See technical specification for details.

# 6301

## Deep groove ball bearing

Single row deep groove ball bearings are particularly versatile, have low friction and are optimized for low noise and low vibration, which enables high rotational speeds. They accommodate radial and axial loads in both directions, are easy to mount, and require less maintenance than many other bearing types.

- Simple, versatile and robust design
- Low friction
- High-speed capability
- Accommodate radial and axial loads in both directions
- Require little maintenance

# Overview

## Dimensions

| | |
|---|---|
| Bore diameter | 0.4724 in |
| Outside diameter | 1.4567 in |
| Width | 0.4724 in |

## Performance

| | |
|---|---|
| Basic dynamic load rating | 2 271 lbf |
| Basic static load rating | 933 lbf |
| Reference speed | 45 000 r/min |
| Limiting speed | 28 000 r/min |
| SKF performance class | SKF Explorer |

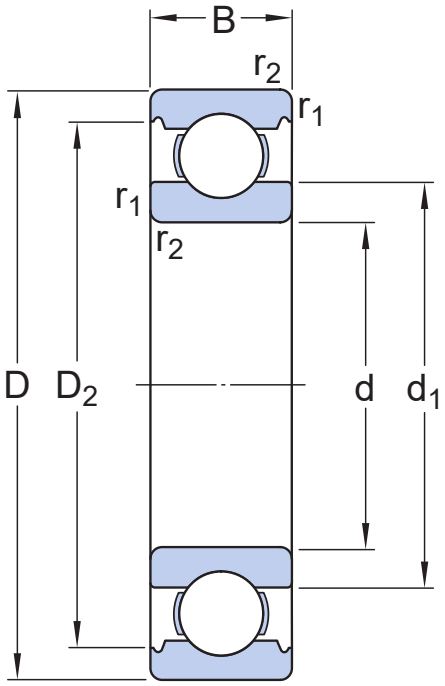
## Properties

| | |
|---|---|
| Filling slots | Without |
| Number of rows | 1 |
| Locating feature, bearing outer ring | None |
| Bore type | Cylindrical |
| Cage | Sheet metal |
| Matched arrangement | No |
| Radial internal clearance | CN |
| Material, bearing | Bearing steel |
| Coating | Without |
| Sealing | Without |
| Lubricant | None |
| Relubrication feature | Without |
| Indicative product carbon footprint to manufacture | 0.4556 lb $CO_2e$ |

## Logistics

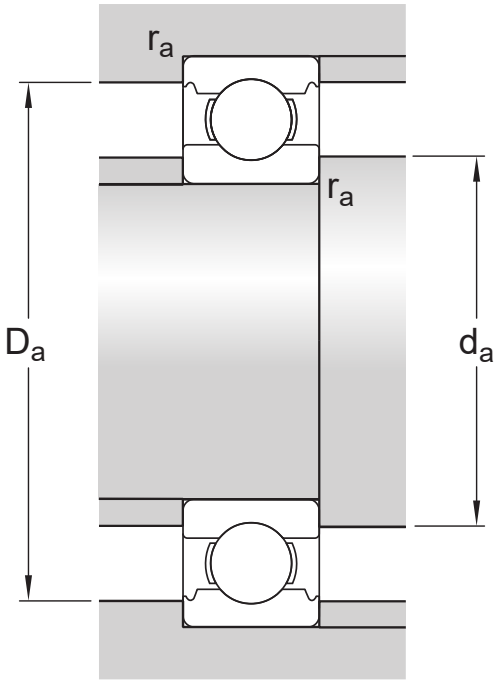
| | |
|---|---|
| Product net weight | 0.1265 lb |
| eClass code | 23-05-08-01 |
| UNSPSC code | 31171504 |

# Technical specification




## Dimensions

| | | |
|---|---|---|
| d | 0.4724 in | Bore diameter |
| $t_{\Delta dmp}$ | -7 – 0 µm | Deviation limits of mid-range bore diameter |
| D | 1.4567 in | Outside diameter |
| $t_{\Delta Dmp}$ | -9 – 0 µm | Deviation limits of mid-range outside diameter |
| B | 0.4724 in | Width |
| $t_{\Delta Bs}$ | -60 – 0 µm | Deviation limits of ring width |
| $d_1$ | ≈ 0.7681 in | Shoulder diameter |
| $D_2$ | ≈ 1.2394 in | Recess diameter |
| $r_{1,2}$ | min. 0.0394 in | Chamfer dimension |
| | P6 and tighter width tolerance | ISO tolerance class for dimensions |




## Abutment dimensions

| | | |
|---|---|---|
| $d_a$ | min. 0.6929 in | Diameter of shaft abutment |
| $D_a$ | max. 1.2362 in | Diameter of housing abutment |
| $r_a$ | max. 0.0394 in | Radius of shaft or housing fillet |

## Calculation data

| | | |
|---|---|---|
| SKF performance class | | SKF Explorer |
| Basic dynamic load rating | C | 2 271 lbf |
| Basic static load rating | $C_0$ | 933 lbf |
| Fatigue load limit | $P_u$ | 40 lbf |
| Reference speed | | 45 000 r/min |
| Limiting speed | | 28 000 r/min |
| Minimum load factor | $k_r$ | 0.03 |
| Calculation factor | $f_0$ | 11 |

## Tolerances of run-out

| | | |
|---|---|---|
| Range of section height at inner ring of assembled bearing | $t_{Kia}$ | 4 µm |
| Maximum run-out of inner ring side face to the bore | $t_{Sd}$ | 7 µm |

| | | |
|---|---|---|
| Maximum axial run-out of inner ring of assembled bearing | $t_{Sia}$ | 7 µm |
| Range of section height at outer ring of assembled bearing | $t_{Kea}$ | 7 µm |
| Perpendicularity of outer ring outside surface | $t_{SD}$ | 4 µm |
| Maximum axial run-out of outer ring of assembled bearing | $t_{Sea}$ | 8 µm |
| ISO tolerance class for geometrical tolerances | | P5 |

## Tolerances and clearances

### GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal (metric), P6, P5, Normal (inch)
- Radial internal clearance: Classes C2 to C5

BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fits

## Compatible products

### Recommended tool

| | |
|---|---|
| Deep groove ball bearing puller kit | TMMD 100 |

## More Information

### Product details

- Single row deep groove ball bearings
- Stainless steel deep groove ball bearings
- Single row deep groove ball bearings with filling slots
- Double row deep groove ball bearings
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Designation system

### Engineering information

- Principles of rolling bearing selection
- General bearing knowledge
- Bearing selection process
- Bearing interfaces
- Seat tolerances for standard conditions
- Selecting internal clearance
- Lubrication
- Sealing, mounting and dismounting
- Bearing failure and how to prevent it

### Tools

- SKF Product select
- SimPro Quick
- Bearing Frequency Calculator
- LubeSelect for SKF greases
- Heater selection tool

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