



## Technical data

### 7302

Single row or matched pairs of angular contact ball bearings

Angular contact ball bearings, pressed steel cage

## VISUAL (S)



## PRODUCT DEFINITION

|                                          |          |
|------------------------------------------|----------|
| <b>Brand</b>                             | NTN      |
| <b>d - Internal diameter</b>             | 15 mm    |
| <b>D - External diameter</b>             | 42 mm    |
| <b>B - Bearing/Inner ring width</b>      | 13 mm    |
| <b>a - Charge load application point</b> | 15 mm    |
| <b>- Contact angle</b>                   | 30 °     |
| <b>rs - Min fillet radius</b>            | 1 mm     |
| <b>r1s - Min fillet radius</b>           | 0,6 mm   |
| <b>Radial clearance class</b>            | CN       |
| <b>Mass</b>                              | 0,055 kg |

## PRODUCT PERFORMANCE

|                                               |             |
|-----------------------------------------------|-------------|
| <b>C - Dynamic load</b>                       | 14900000 mN |
| <b>C0 - Static load</b>                       | 7200000 mN  |
| <b>Cu - Fatigue limit load</b>                | 560000 mN   |
| <b>N lim - Oil lubrication limit speed</b>    | 156000 °/s  |
| <b>N lim - Grease lubrication limit speed</b> | 114000 °/s  |
| <b>Tmin - Min operating temperature</b>       | 233,15 °K   |
| <b>Tmax - Max operating temperature</b>       | 393,15 °K   |

## ABUTMENT

|                                          |         |
|------------------------------------------|---------|
| <b>da min - Min shoulder diameter IR</b> | 20,5 mm |
| <b>db min - Min IR shoulder diameter</b> | 19,5 mm |
| <b>Da max - Max shoulder diameter OR</b> | 36,5 mm |
| <b>Db max - Max OR shoulder diameter</b> | 37,5 mm |



## ABUTMENT

|                                                       |        |
|-------------------------------------------------------|--------|
| <b>r1a - Max fillet radius</b>                        | 0,6 mm |
| <b>ra max - Max shaft &amp; housing fillet radius</b> | 1 mm   |

## INDUSTRY CALCUL FACTORS

## Equivalent dynamic radial load

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

|     | 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

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

| a   | Single or DT bearing arrangement |                | DB or DF arrangement |                |
|-----|----------------------------------|----------------|----------------------|----------------|
|     | X <sub>0</sub>                   | Y <sub>0</sub> | X <sub>0</sub>       | Y <sub>0</sub> |
| 30° | 0.5                              | 0.33           | 1                    | 0.66           |
| 40° |                                  | 0.26           |                      | 0.52           |

For single or DT bearing arrangement :

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

