

## PDF technical sheet 4T33109



### Single row tapered roller bearings

Tapered roller bearing, pressed steel cage

| Product definition |          |
|--------------------|----------|
| d                  | 1.7717 " |
| D                  | 3.1496 " |
| B                  | 1.0236 " |
| C                  | 0.8071 " |
| T                  | 1.0236 " |
| d1                 | 2.4803 " |
| a                  | 0.7677 " |
| rs min             | 0.0591 " |
| r1s min            | 0.0591 " |
| e                  | 0.38     |
| Y2                 | 1.57     |
| Y0                 | 0.86     |
| Mass               | 1.91 oz  |
| ISO 355 reference  | T3CE045  |
| Brand              | NTN      |



| Product performance                           |           |
|-----------------------------------------------|-----------|
| Dynamic load, C                               | 84.50 kN  |
| Rating life coefficient, A2                   | 1.4       |
| Static load, C0                               | 115 kN    |
| Fatigue limit load, Cu                        | 14 kN     |
| Nlim (oil)                                    | 6,200 RPM |
| Nlim (grease)                                 | 4,700 RPM |
| Min operating temperature, Tmin               | -40 °C    |
| Max operating temperature, Tmax               | 248 °C    |
| Characteristic cage frequency, FTF            | 0.43 Hz   |
| Characteristic rolling element frequency, BSF | 7.22 Hz   |
| Characteristic outer ring frequency, BPF0     | 9.12 Hz   |
| Characteristic inner ring frequency, BPFI     | 11.89 Hz  |



### Abutment dimensions

|         |          |
|---------|----------|
| da max  | 2.0472 " |
| db min  | 2.1063 " |
| Da min  | 2.7165 " |
| Da max  | 2.8150 " |
| Db min  | 3.0315 " |
| Ca min  | 0.1575 " |
| Cb min  | 0.2165 " |
| ra max  | 0.0591 " |
| r1a max | 0.0591 " |

### 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  $P_0 \leq F_r$ , then use  $P_0 = F_r$

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