

## PDF technical sheet 30311U



### Single row tapered roller bearings

Tapered roller bearing, pressed steel cage

| Product definition |          |
|--------------------|----------|
| d                  | 2.1654 " |
| D                  | 4.7244 " |
| B                  | 1.1417 " |
| C                  | 0.9843 " |
| T                  | 1.2402 " |
| d1                 | 3.3661 " |
| a                  | 0.9646 " |
| rs min             | 0.0984 " |
| r1s min            | 0.0787 " |
| e                  | 0.35     |
| Y2                 | 1.74     |
| Y0                 | 0.96     |
| Mass               | 5.86 oz  |
| ISO 355 reference  | T2FB055  |
| Brand              | NTN      |



| Product performance                           |           |
|-----------------------------------------------|-----------|
| Dynamic load, C                               | 155 kN    |
| Rating life coefficient, A2                   | 1         |
| Static load, C0                               | 179 kN    |
| Fatigue limit load, Cu                        | 21.80 kN  |
| Nlim (oil)                                    | 4,400 RPM |
| Nlim (grease)                                 | 3,300 RPM |
| Min operating temperature, Tmin               | -40 °C    |
| Max operating temperature, Tmax               | 248 °C    |
| Characteristic cage frequency, FTF            | 0.41 Hz   |
| Characteristic rolling element frequency, BSF | 5.27 Hz   |
| Characteristic outer ring frequency, BPF0     | 6.57 Hz   |
| Characteristic inner ring frequency, BPFI     | 9.43 Hz   |



#### Abutment dimensions

|         |          |
|---------|----------|
| da max  | 2.7953 " |
| db min  | 2.6378 " |
| Da min  | 4.0945 " |
| Da max  | 4.3307 " |
| Db min  | 4.3701 " |
| Ca min  | 0.1575 " |
| Cb min  | 0.2559 " |
| ra max  | 0.0787 " |
| r1a max | 0.0787 " |

#### 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